Missouri Health Assessment

Missouri Department of Health and Senior Services

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- Missouri Hospital Association
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Missouri Department of Health and Senior Services

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Executive Summary

Background

The Missouri Department of Health and Senior Services (DHSS), through its vision, mission, and values serves the citizens of the state. The health department's vision is *healthy Missourians for life*. The organizational mission is to *be the leader in promoting, protecting and partnering for health*. DHSS is seeking national accreditation and in January 2013 initiated a joint effort involving the development of a State Health Assessment (SHA) and a process to develop a State Health Improvement Plan (SHIP). To assure that the process included input from key stakeholders, a diverse (sector and geography) group of 30 public health system partners and stakeholders from across the state was identified to support the assessment activities. This Public Health System Partners Group offered valuable efforts and time in the completion of multiple assessments, as well as the development of strategic priority issues.

The Assessments

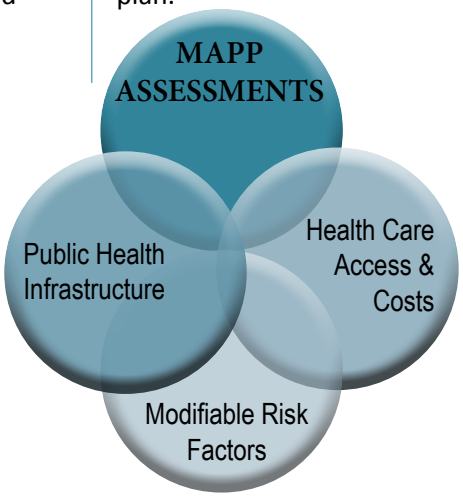
The SHA utilized a case study design to determine the health status of the residents in the state of Missouri. Two theoretical frames for public health planning guided the assessment activities–Mobilizing for Action through Planning and Partnership (MAPP) and the PRECEDE-PROCEED Model. Four assessments form the foundation of the MAPP process (Community Themes and Strengths, Local Public Health System, Community Health Status and Forces of Change). From January through June of 2013, DHHS completed activities using all four assessments.

Summary of Outcomes

Place matters when it comes to both health determinants and health outcomes. In the 2012 America's Health Ranking Report, the rankings for Missouri's health determinants range from 23rd (low birth weight) to 46th (immunization coverage), while the health outcome indicators range from 29th (geographic disparity) to 41st (premature deaths). In Missouri, as in many states, health varies from one region to another. The worst burden of risks and adverse outcomes in the State of Missouri is with citizens in the Southeast region. Across the state, citizens' and stakeholders' perceptions about the impact of economics and lack of insurance converge with the health status indicators that show the decline in insurance and increase in persons living below the poverty level. Both citizens and stakeholders shared their concerns about fiscal challenges in their households, organizations and communities and the impact on the health of Missourians.

Key Issues

Strategic issues reveal the changes that must occur in order for the vision of the health improvement plan to be achieved. The results of the MAPP assessments offer important contextual information and the foundation for creation of Missouri's statewide health improvement plan. Using the outcomes of the four MAPP assessments, the Public Health System Partners Group identified 10 key issues–uninsured, smoking, economics, mental health and substance abuse, health services access and costs, modifiable risk factors, commitment and collaboration through partnerships, assure workforce, and performance management and quality improvement. The 10 issues converge into three primary domains that will shape the development of the state health improvement plan.



Introduction

State of Missouri Profile

Missouri is located in the Midwestern portion of the United States, sharing borders with eight other states. Missouri is known for its mixture of large urban areas with rural regions and an extensive farming culture. The 2010 population density of the state was 87.1 people per square mile (33.62 per square kilometers). Missouri has a population of six million people.[1] The state's capitol is in Jefferson City and the most populated cities are: Kansas City-459,787; St. Louis-319,294; Springfield-159,498; Independence-116,830 and Columbia-108,500. The demographic make-up of the population is 1.43 million children younger than age 18; 838,000 seniors 65 years and older; 3.73 million adults between the ages of 18 and 64.[2] Blacks represent the state's largest racial population at 11.7 percent. From 2000–2009, Missouri's population grew by seven percent with the Hispanic population growing faster than any other group at 70 percent.[3] During the same time frame the number of persons between the ages of 55 and 64 increased by 35 percent.

Thirty-seven percent of Missouri's population is rural, equating to approximately 2.22 million people in rural areas.[4] The median age of 37.9 years is close to the national median age of 37.2 years. In 2011, Missouri's median household income was $45,231, while the national median household income was $50,502. In Missouri, 15.8 percent of people live below the federal poverty level, which is comparable to the national rate of 15.3 percent. The state is ranked 16 among the states with Fortune 500 company headquarters (10 companies). Collectively, these companies employ nearly 25,000 people within Missouri and most of the companies are headquartered in the St. Louis area, with the exception of one that is located in Springfield.[5]

Each year the United Health Foundation, along with American Public Health Association (APHA) and the Partnership for Prevention present a state-by-state analysis and report of health in the U.S.[6] The report focuses on both determinants of health (e.g., smoking, drinking, obesity, sedentary lifestyle) and outcomes (e.g., physical health, mental health, mortality). For 2012, Missouri's overall rank was 42 out of the 50 states–the lowest ranking for the state since 1990 when the reports were initiated.

Missouri Department of Health and Senior Services

The Institute of Medicine (2002) defines public health as what society does collectively to assure conditions for people to be healthy.[7] More specifically, it is one of many efforts organized by a society to protect, promote, and restore the people's health.[8] According to the World Health Organization, *health is not merely the absence of disease, but a complete state of physical, mental, and social well-being*.[9] The public health infrastructure–primarily consisting of federal, state, and local government agencies–carries out the majority of public health activities in partnership with non-government agencies, coalitions, and individuals. The Missouri Department of Health and Senior Services (DHSS), through its vision, mission, and values, serves the citizens of the state. The health department's vision is *healthy Missourians for life*. The organizational mission *is to be the leader in promoting, protecting and partnering for health*. The departmental goals, which were updated in 2012, are to:

- Ensure Missourians are healthy, safe, and informed.
- Maximize health and safety outcomes.
- Engage and invest in our staff.
- Position resources to ensure maximize returns.

Context for the Assessment

After more than six years of exploration and investigation, the Centers for Disease Control and Prevention (CDC) in collaboration with the Robert Wood Johnson Foundation is supporting a national voluntary accreditation program for public health agencies. Formed in May 2007, the Public Health Accreditation Board (PHAB) is a non-profit entity that oversees the accreditation process. PHAB is working to promote and protect the health of the public by advancing the quality and performance of all public health departments in the U.S. through national public health department accreditation.[10] PHAB's vision is a high-performing governmental public health system that leads to a healthier nation. For a public health department to be accredited, it must meet stringent requirements for the 10 essential services of the core public health functions and demonstrate a commitment to constant improvement.

In its efforts to become nationally accredited, in January 2013 DHSS initiated a joint effort involving the development of a State Health Assessment (SHA) and a process to develop a State Health Improvement Plan (SHIP). The purpose of the SHA is to learn about the health status of Missouri citizens. It describes the health status of the population, identifies areas for health improvement, determines factors that contribute to health issues and identifies assets and resources that can be mobilized to address population health improvement.

The activities included receiving input and feedback from a cross–section of citizens and key public health stakeholders in the state. The department engaged a consulting firm (Research and Evaluation Solutions, Inc.–REESSI) with three decades of experience in community engagement and assessment to facilitate and support the development of the state health assessment and the identification of a preliminary set of priority issues for improvement.

To assure that the assessment process included input from key stakeholders, a diverse (sector and geography) group of over 30 public health system partners and stakeholders from across the state was identified to support the assessment activities. This Public Health System Partners Group offered valuable input in the completion of multiple assessments, as well as the development of strategic priority issues.

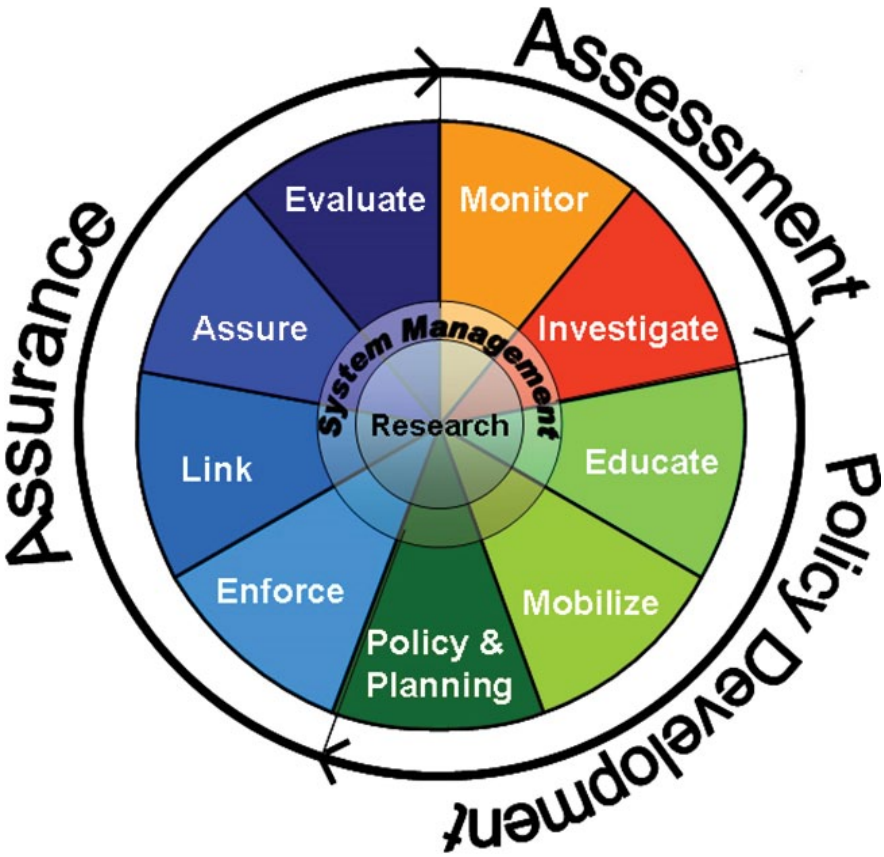


Figure 1 – The 10 Essential Public Health Services

Overview of the Design for the Assessments

The SHA utilized a case study design to determine the health status of the residents in the state of Missouri. Two theoretical frames for public health planning guided the assessment activities–Mobilizing for Action through Planning and Partnership (MAPP) and the PRECEDE-PROCEED Model.

MAPP was developed through a cooperative agreement between the National Association of County and City Health Officials (NACCHO) and the Centers for Disease Control and Prevention (CDC). The MAPP framework is a community-wide strategic planning tool for improving community health and helping communities prioritize public health issues and identify resources to address them. MAPP is not an agency-focused assessment tool; rather, it is an interactive process that can improve the efficiency, effectiveness, and ultimately the performance of local public health systems.

Four assessments form the foundation of the MAPP process (Community Themes and Strengths, Local Public Health System, Community Health Status and Forces of Change). The process is illustrated in Figure 2. Collectively, the four MAPP Assessments have several purposes (MAPP, 2011):

- Revealing the gaps between current circumstances and a community's vision (as determined in the visioning phase);
- Providing information to use in identifying the strategic issues that must be addressed to achieve the vision; and
- Serving as the source of information from which the strategic issues, strategies, and goals are built.

The PRECEDE-PROCEED Model is a comprehensive framework for planning population-based health programs. It was developed by Lawrence Green and Marshall Kreuter in 1980 and adapted in 1999 and 2004.

The PRECEDE-PROCEED frame uses an ecological and educational approach that respects context. The assessment team followed the MAPP steps and elements of the PRECEDE-PROCEED model that focus on Social Assessment, Situational Analysis and Epidemiological-Behavioral-Environmental assessments as illustrated in Figure 3.

The state health assessment activities answer five overarching questions:

- What is the health profile of Missouri residents?
- How healthy are the citizens of Missouri?
- What are the citizens' beliefs and perceptions about their health?
- What are the perceptions of key stakeholders about the health of Missourians?
- What are the strengths and weaknesses of the Missouri statewide public health system?

Figure 2 – MAPP Process

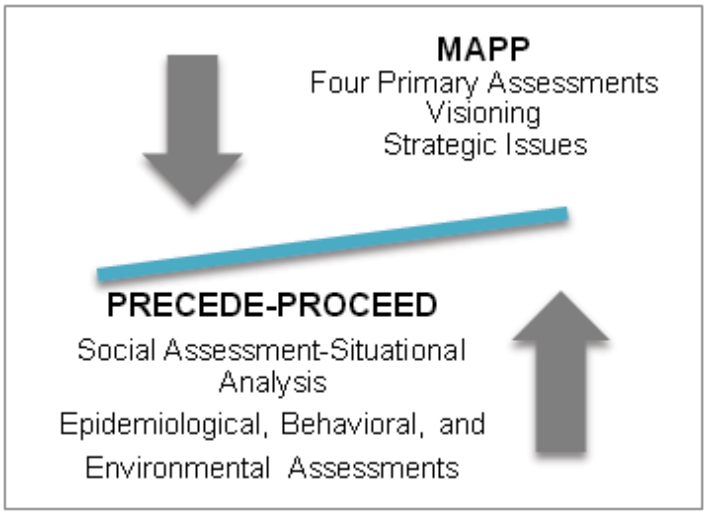


Figure 3 – Theoretical Foundation

State Health Status Assessment

Background

The state health assessment identifies priority issues associated with community health and quality of life using social and epidemiological data. Questions answered relate to the overall health and quality of life of the citizens in the state.

Data Collection and Analyses

The assessment team used the County Health Rankings Model (University of Wisconsin Population Health Institute) as a framework and guide for collecting and grouping indicator data (see Figure 4).[11] The data groups are defined as Health Outcomes: Mortality and Morbidity Measures across several disease and event categories and Health Factors: Behavioral, Clinical Care, Social & Economic, and Environmental.

DHSS staff identified a final set of 19 priority indicators. The DHSS epidemiology team provided most of the data sets and REESSI staff secured the data on substance abuse, mental health, and bullying. The indicators are summarized in Table 1. Using the *Healthy People 2020* objectives as a guide, the assessment team constructed five categories of health determinants and outcomes to present to the citizens during the informational and focus group meetings. The categories are summarized in Table 2.

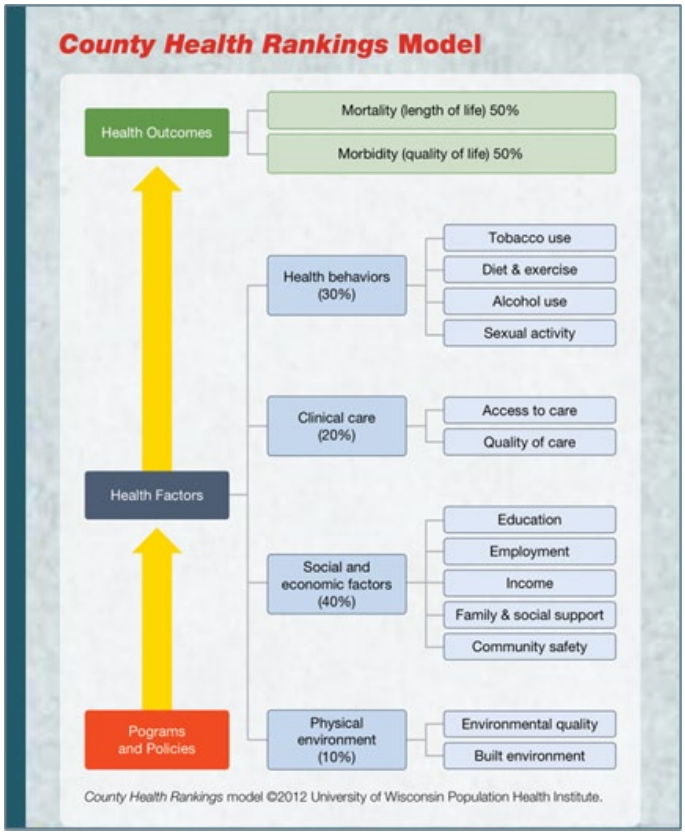


Figure 4 – County Health Rankins Model

Table 1 - Key Indicators included in the Assessments

Indicator Data Category	Indicators
Health Determinants (Factors) (N=10)	Poverty; Median Household Income; High School Graduation (≥ age 25); Employment Status; Obesity; Smoking; Heavy Drinking; Uninsured; ER Visits; and Preventable Hospitalizations (< age 65)
Health Outcomes (N=9)	Overall Mortality; Leading Causes of Mortality; Infant Mortality; Life Expectancy; STD/HIV; Suicide; Depression; Drug Arrests; and Bullying

The assessment team received and organized the data into regional charts and prepared side-by-side comparison reports for the counties in each of the seven regions, placing the indicators in the two categories of health determinants (factors) and health outcomes.[12]

Additionally, the assessment team reviewed the state health rankings and county rankings for the state and set up charts that compare the key indicators across the seven established Missouri Behavioral Risk Factor Surveillance System (BRFSS) regions.

Table 2 - Health Determinants and Outcomes Categories

Health Determinants & Outcomes Category	Number of Indicators	Sample Indicators
Social and Economic	5	Population; Average Household Income
Sexual Health	4	STD/HIV
Mental Health, Heavy Alcohol Use, and Bullying	3	Depression, Heavy Drinking, Bullying
Clinical Care	3	Hospitalization, ER Visits
Mortality	7	Overall, Cancer, Heart Disease

Results

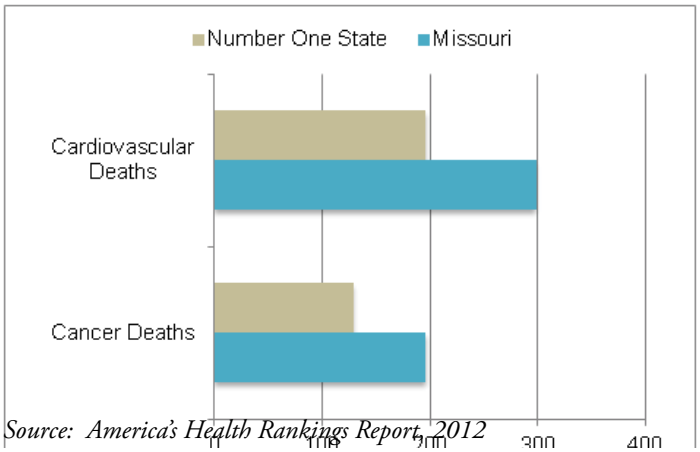
Missouri's National Health Ranking

The health outcomes for citizens of the State of Missouri consistently rank in the bottom one-third of overall health status when compared to other states and the District of Columbia (MHA, 2010).[13] In the 2012 America's Health Ranking Report, the rankings for Missouri's health determinants range from 23rd (low birth weight) to 46th (immunization coverage), while the health outcome indicators range from 29th (geographic disparity) to 41st (premature deaths).[14]

These rankings include: 39th for cancer deaths (196.1 deaths per 100,000 population); 41st for premature death (8,409 years lost per 100,000 population); 41st for cardiovascular deaths (298.3 deaths per 100,000 population); and 34th for poor mental health days (4.1 days in previous 30 days). Figure 5 shows the comparison between Missouri and the number one best ranked state (Vermont), on cancer and cardiovascular deaths.

Missourians also have behaviors and risk factors that determine health outcomes. Missouri ranks 42nd and 39th, respectively for the percentage of its population that smokes (25 percent) and that is obese (30.3 percent). Missouri also has rankings in the lower quartile for preventable hospitalizations (39th), violent crime (37th), infectious disease (43rd) and immunization coverage of children (46th).

Figure 5 - Cardiovascular/Cancer Deaths Per 100,000



Source: America's Health Rankings Report, 2012

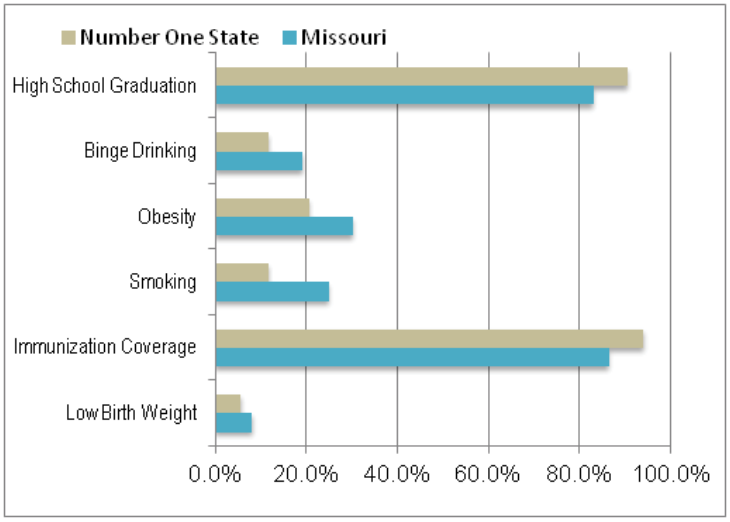
Comparisons between the number one best ranked state and Missouri on several health determinants are shown in Figure 6.

Economic status and health are inextricably linked, with a person's income level being associated with both health determinants and outcomes.[15] While the current unemployment rate in Missouri dropped to 7.6 percent in 2012, the number of people living below the federal poverty level (15.8 percent) and the percentage of uninsured Missourians (19.9 percent) have both increased since 2009.[16] The growth in the uninsured may be linked to the decrease in Medicaid coverage in 2005 and the decrease in the number of Missourians with employer-sponsored coverage.[17]

Poverty is distributed very unevenly within the state. In 2011, poverty rates ranged from only 6.0 percent in St. Charles County to 31.8 percent in Pemiscot County. Overall, the 2011 poverty rate for African-Americans (30.2 percent) was nearly twice that of all Missourians (15.8 percent).

These state ranking outcomes led the Public Health System Partners Group to establish a health improvement vision statement that includes moving the State of Missouri into the top 10 rankings in 10 years. (See Appendix D for the full vision statement and values.)

Figure 6 - Health Determinants



Source: America's Health Rankings Report, 2012

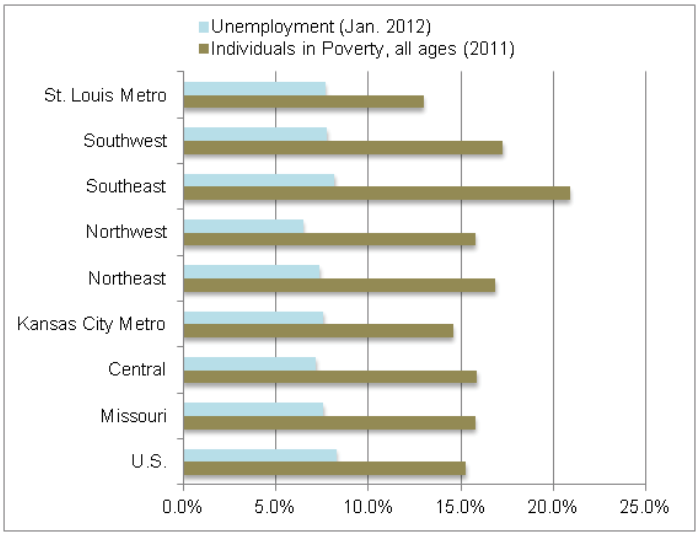
The Health of Missourians Across Regions and Race

The quality of life and health of Missourians are presented in six categories that reveal both risk factors and outcomes: 1) Social and Economic, 2) Health Determinants, 3) Mortality, 4) Sexual Health, 5) Clinical Care, and 6) Mental Health, Drugs, and Bullying. Missourians engage in various risk behaviors and experience varying levels of the social and economic factors that impact their health outcomes, based on their regions of residence and their race. The same applies to mortality, sexual health, and drug arrests outcomes. The worst burden of risks and adverse outcomes in the State of Missouri are with citizens in the Southeast region. Moreover, the health outcomes across several indicators are worse for African Americans than for all Missourians.

Socioeconomic (SES) status is important to health not only for those in poverty, but at all levels of SES. On average, the more advantaged individuals are, the better their health.[18] A person's health is shaped by behaviors, which in turn are associated with his or her socioeconomic level (e.g., income, education, opportunities) and the corresponding environmental setting (e.g., poverty levels, availability of jobs, health care access).[19] The poverty rates for Missouri (15.8 percent) and the U.S. (15.3 percent) are nearly the same. The Southeast region has the highest percentage (20.9 percent) of persons living in poverty. The 2012 unemployment rate in the U.S. was 8.3 percent, compared to the Missouri rate of 7.6 percent. The rates in the Central (7.2 percent), Northeast (7.4 percent), and Northwest (6.5 percent) regions are significantly lower than the state rate, while the rate in the Southeast region (8.2 percent) is significantly higher than the state rate. Missouri's high school graduation rate (86.8 percent) is comparable to the U.S. rate, and there are no significant differences between the state and regional high school graduation rates.

Note: Significance higher or lower than the state is at p ≤.05.

Social and Economic



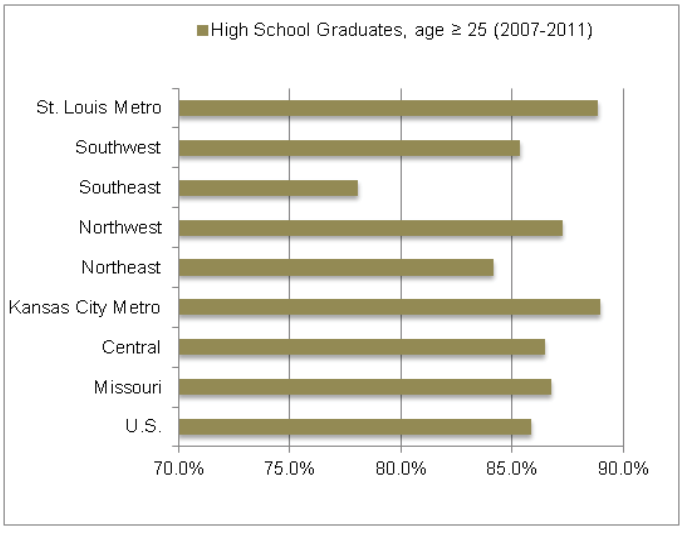
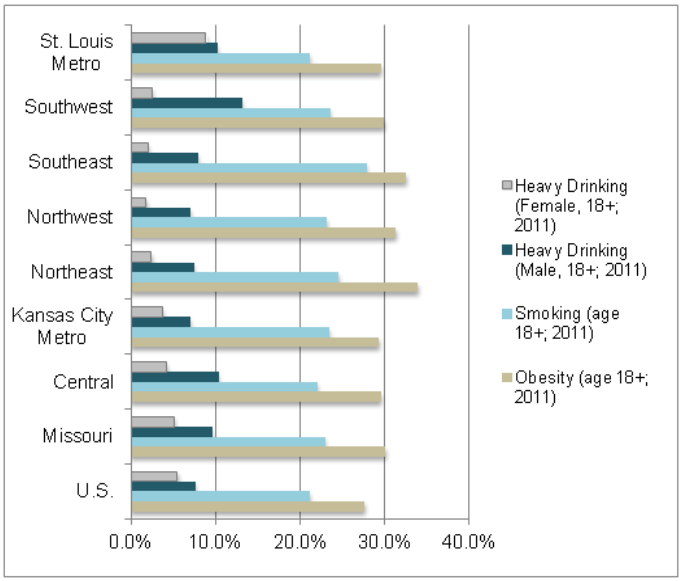


Figure 7–Poverty, Unemployment and High School Graduation for Regions, Compared to U.S. and Missouri
Sources: U.S. Census Bureau and Missouri Economic Research and Information Center (MERIC)

Health Determinants



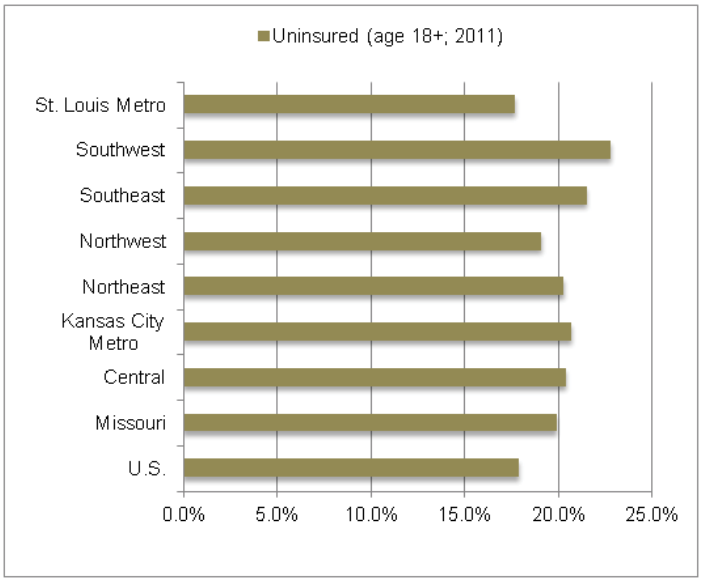
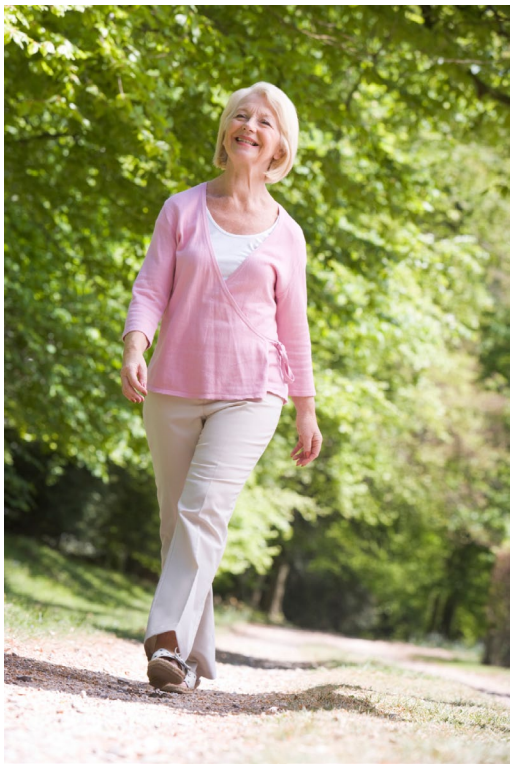


Figure 8–Health Determinants for Regions, Compared to U.S. and Missouri
Source: Missouri Department of Health and Senior Services and Centers for Disease Control and Prevention Behavioral Risk Factor Surveillance System (BRFSS)

A broad range of personal, social, economic, and environmental factors that influence health status are known as determinants of health. These factors are interrelated and determine both population and individual health outcomes. In 2011, Missouri's obesity rate was 30.2 percent, compared to the U.S. rate of 27.7 percent. The obesity rate in the Northeast region (34 percent) of the state is significantly higher than the state rate, while the other regions have obesity rates that are not significantly different from the state rate. Missouri's smoking rate (23 percent) is slightly higher than the U.S rate (21.2 percent). The smoking rate in the Southeast region (27.9 percent) is significantly higher than the state rate. In Missouri the heavy drinking rate for males (9.6 percent) is significantly higher than the rate for females (5.1 percent). The rate of uninsured in the Southwest region (22.8 percent) is significantly greater than the state rate of 19.9 percent.

Note: Significance higher or lower than the state is at $p \leq .05$.



Mortality

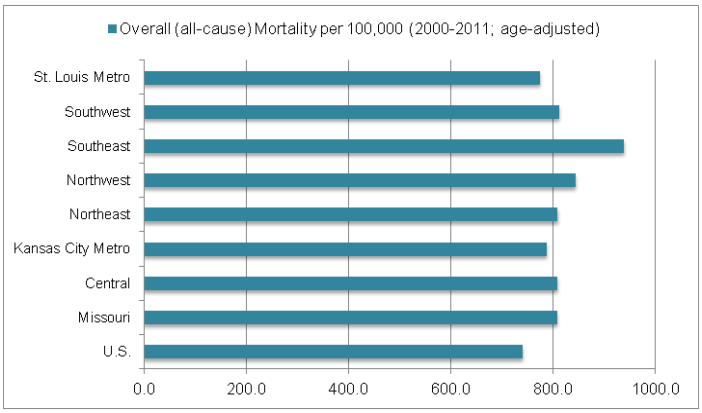


Figure 9–Overall Mortality Rate for Regions, Compared to U.S. and Missouri

Source: Missouri Department of Health and Senior Services, Missouri Information for Community Assessment (MICA) and CDC National Vital Statistics Reports

Mortality indicators offer the best proxy of the health of those who are living. These data reveal the true reality of a community's health status and provide an immediate view of current health problems, point to patterns of risks in specific communities, and show trends in explicit causes of death over time.[20] Missouri's overall death rate (808.1 per 100,000 persons) is higher than the U.S. rate (740.6 per 100,000 persons). The Southeast region (938.8 per 100,000 persons) carries a significantly higher burden for all deaths. The St. Louis Metro region has the lowest overall death rate of 774.7 per 100,000 persons. However, significantly low rates in St. Charles, St. Louis and Warren Counties mask significantly high rates in St. Louis City and the other counties in the region.

Note: Significance higher or lower than the state is at p ≤.05.

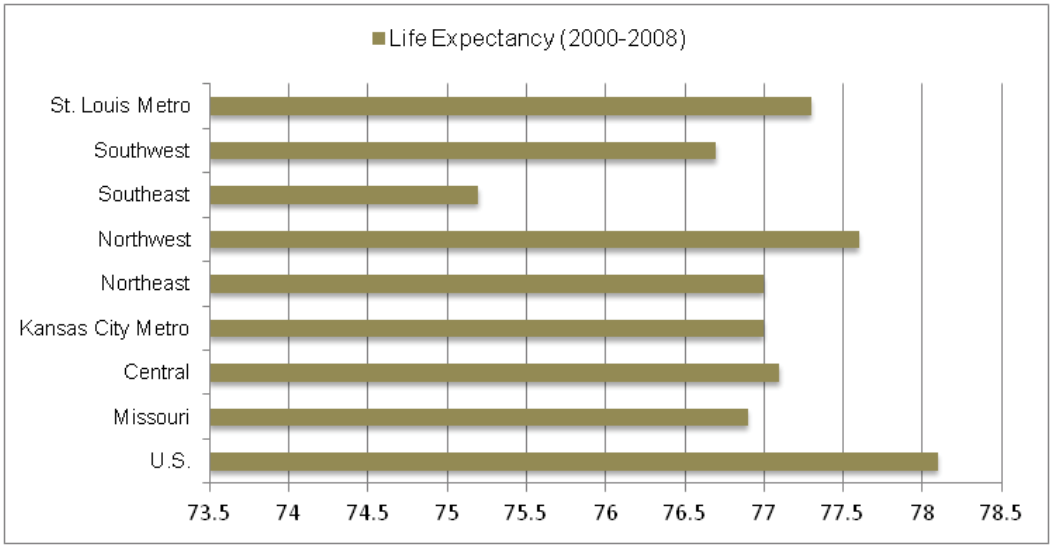


Figure 10–Life Expectancy at Birth for Regions, Compared to U.S. and All Missourians

Source: Missouri Department of Health and Senior Services and CDC National Vital Statistics

Life expectancy is the number of years a person would be expected to live, starting from birth (life expectancy at birth) based on the mortality statistics for a given observation period. The steady increase in life expectancy over the past decades has been associated with the public health system, which facilitated improved nutrition, better hygiene, access to safe drinking water, effective birth control, immunization and other health interventions.[21] The life expectancy at birth for Missourians (76.9 years) is lower than the years of life expected for all Americans (78.1). The life expectancy at birth for residents in the Southeast Region (75.2 years) is nearly two years less than that for the state.

Note: the U.S. life expectancy is for 2008, only.

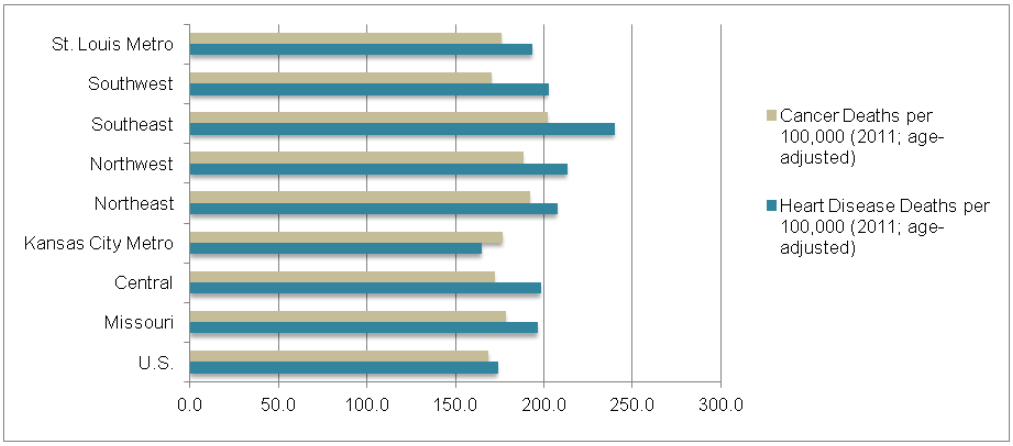


Figure 11–Cancer and Heart Disease Deaths for Regions, Compared to U.S. and All Missourians

Source: Missouri Department of Health and Senior Services and CDC National Vital Statistics

Missouri's deaths from heart disease (196.4 per 100,000 persons) and cancer (178.3 per 100,000 persons) are higher than the U.S. rates (173.7, and 168.6 per 100,000 persons, respectively). The Southeast region's cancer (239.8 per 100,000 persons) and heart disease (202 per 100,000 persons) death rates are higher than the rest of the state, while the Kansas City Metro region's heart disease death rate (164.7 per 100,000 persons) is significantly lower than the state heart disease death rate.

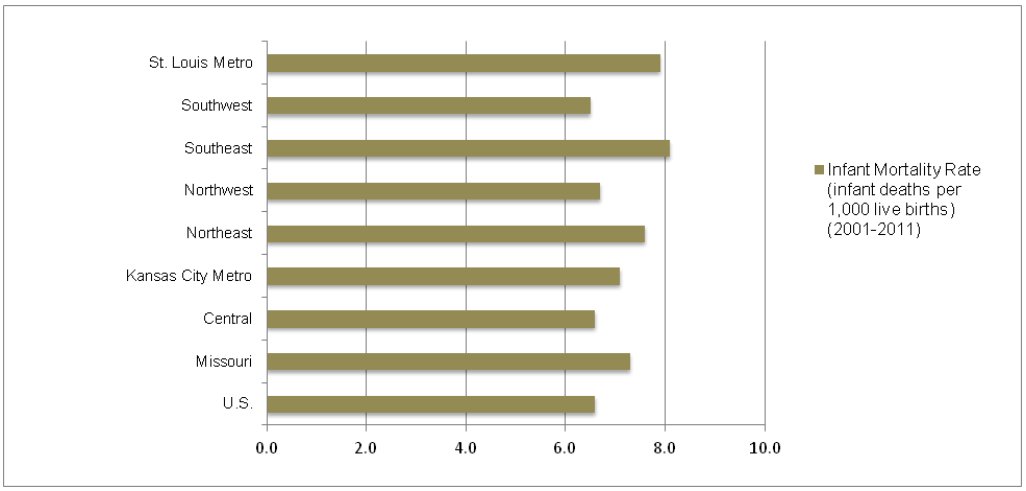


Figure 12–Infant Mortality Rates for Regions, Compared to U.S. and All Missourians

Source: Missouri Department of Health and Senior Services and CDC National Vital Statistics

Infant mortality rates are often used as an indicator of the health and well-being of a nation, state or community because factors affecting the health of the entire population can also impact the mortality rate of infants.[22] Missouri's infant mortality rate (7.3 per 1,000 live births) is significantly greater than the U.S. rate (6.6 per 1,000 live births) with all regions in the state, except two, having comparable rates. The Central (6.7 per 1,000 live births) and Southwest (6.6 per 1,000 live births) regions' infant mortality rates are significantly lower than the state rate.

Sexual Health

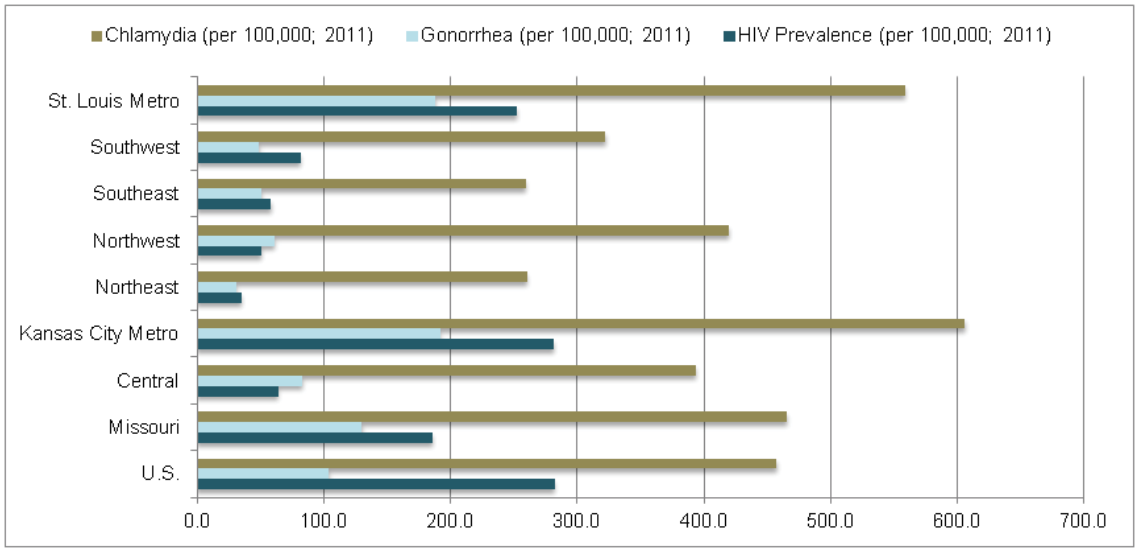
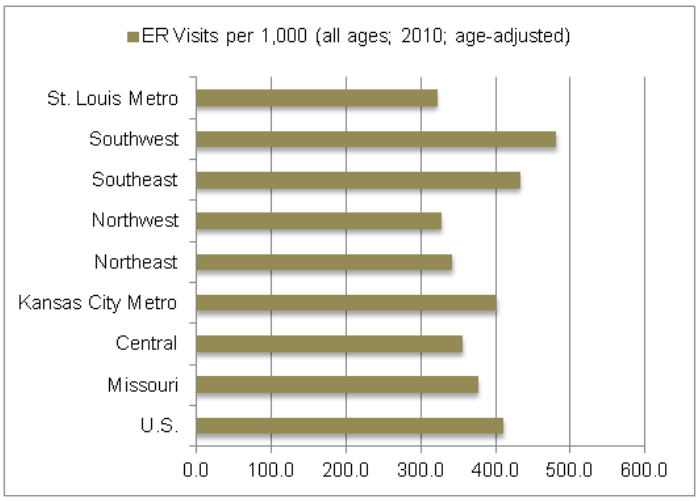


Figure 13–Sexual Health Indicators for Regions, Compared to U.S. and Missouri
Source: Missouri Department of Health and Senior Services, Sexually Transmitted Disease Management System, and Enhanced HIV/AIDS Reporting System-eHARS and CDC HIV. Note: The U.S. rate for HIV Prevalence is for 2010.

The HIV/AIDS epidemic is not evenly distributed across states and regions in the United States.[23] Generally, HIV and AIDS are concentrated in urban areas, leading states with higher concentrations of urban areas to report higher rates of persons living with a diagnosis of HIV infection or AIDS. In 2010, Blacks accounted for the largest proportion of AIDS diagnoses in all regions of the U.S. except the West, where whites accounted for the highest proportion of diagnoses. STDs are also one of the most critical health challenges facing many states and communities today. Missouri's HIV prevalence rate (186.0 per 100,000 persons) is significantly lower than the U.S. rate (282.2 per 100,000 persons), while the state's Gonorrhea (130.3 per 100,000 persons) and Chlamydia (465.6 per 100,000 persons) rates are significantly higher than the U.S. rates (104.2 and 457.6 per 100,000 persons, respectively). The metro regions of Kansas City and St. Louis have rates for HIV prevalence (281.6 and 252.6 per 100,000 persons, respectively), Gonorrhea (191.8 and 188 per 100,000 persons, respectively) and Chlamydia (606.1 and 558.8 per 100,000 persons, respectively) that are significantly greater than the state rates.

Note: Significance higher or lower than the state is at $p \leq .05$.

Clinical Care



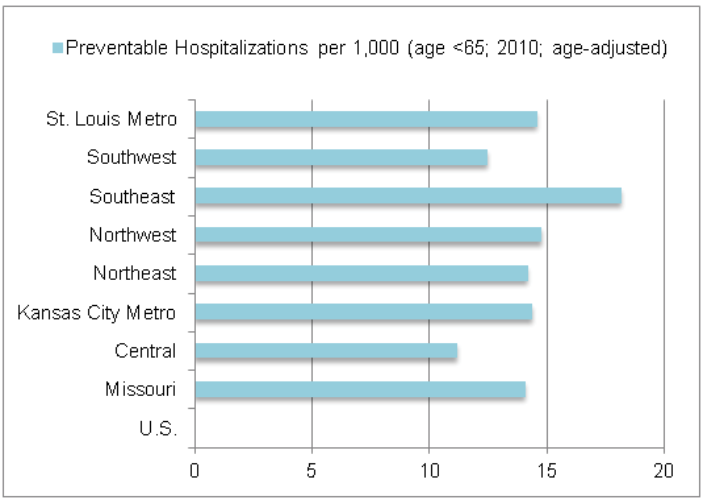
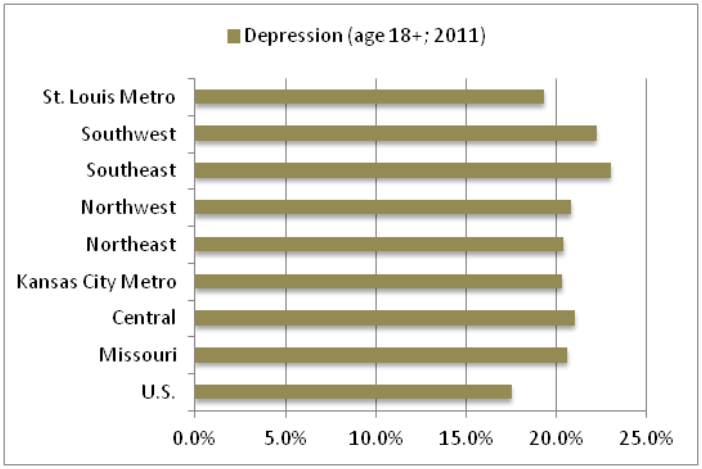


Figure 14–Clinical Care Indicators for Regions, Compared to U.S. and Missouri

Source: Missouri Department of Health and Senior Services, Missouri Information for Community Assessment (MICA) and Kaiser Family Foundation

Access to comprehensive, quality health care services is important for the achievement of health equity and for increasing the quality of life for everyone. There are four components of access to care: coverage, services, timeliness, and workforce (Healthy People 2020–Access to Health Services). Rising health care costs cause policy makers to be concerned about emergency room (ER) visits, which are often more expensive than primary provider treatment.[24] Preventable hospitalizations are hospitalizations that *better primary care could have prevented*.[25] Missouri's ER visits (377.4 per 1,000 persons.) are lower than the U.S. rates (411 per 1,000 persons), while the ER rates for the Central (356.6 per 1,000 persons), Northeast (343.2 per 1,000 persons), Northwest (328.1 per 1,000 persons), and St. Louis Metro (322.3 per 1,000 persons) regions are significantly lower than the state rates. Conversely, the Kansas City Metro (402.5 per 1,000 persons), Southeast (433 per 1,000 persons), and Southwest (482 per 1,000 persons) regions' ER Visit rates are significantly higher than the state rate. The preventable hospitalization rates are significantly lower than the state rates in the Central (11.2 per 1,000) and Southwest (12.5 per 1,000) regions, while they are significantly higher in the Southeast (18.2 per 1,000 persons) and St. Louis Metro (14.6 per 1,000 persons) regions.

Note: Significance higher or lower than the state is at $p \leq .05$.



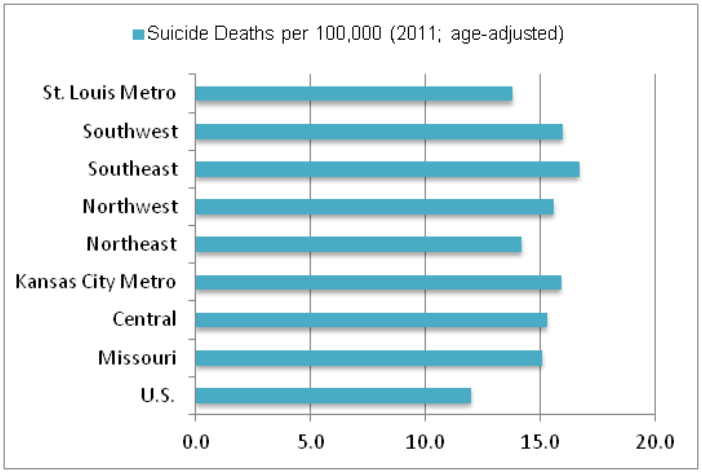


Figure 15–Depression and Suicide Rates for Regions, Compared to U.S. and Missouri

Sources: Missouri Department of Health and Senior Services, Missouri County-Level Study and Centers for Disease Control and Prevention Behavioral Risk Factor Surveillance System (BRFSS)

Mental health is a critical component of overall health and quality of life and should be addressed with the priority that is given to physical health.[26] Mental illness has been associated with the development and outcomes of several physical ailments and is regularly associated with health risk behaviors such as substance abuse, tobacco use, and physical inactivity.[27] Moreover, depression has been found to be a risk factor for multiple chronic diseases–hypertension, cardiovascular disease, and diabetes–and can negatively impact these conditions. Missouri's depression prevalence (20.6 percent) is higher than the 17.5 percent for the U.S. The regional depression rates are comparable to the state rate, except for the Southeast region, which is significantly higher at 23 percent. Missouri's suicide death rate (15.1 per 100,000) is higher than the U.S. rate (12 per 100,000). The rates across the regions are nearly the same, with rates in the Southeast (16.7 per 100,000) and Southwest (16 per 100,000) regions being slightly higher than the state rates.

Note: Significance higher or lower than the state is at $p \leq .05$.

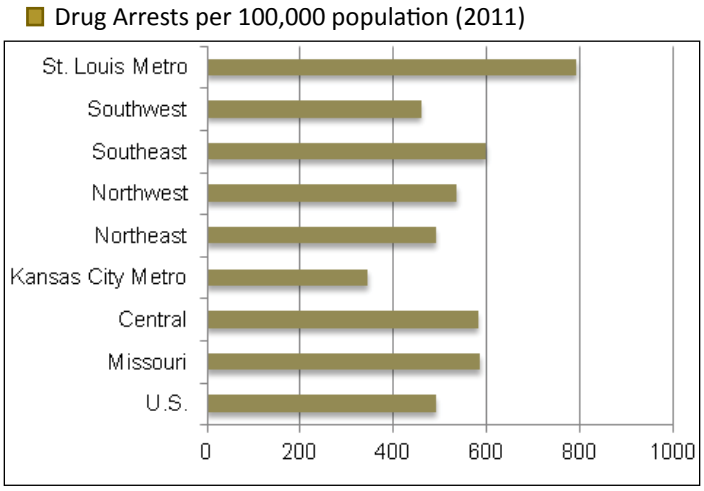


Figure 16–Drug Arrests for Regions, Compared to U.S. and Missouri

Source: Missouri Department of Mental Health and the FBI Crime Data

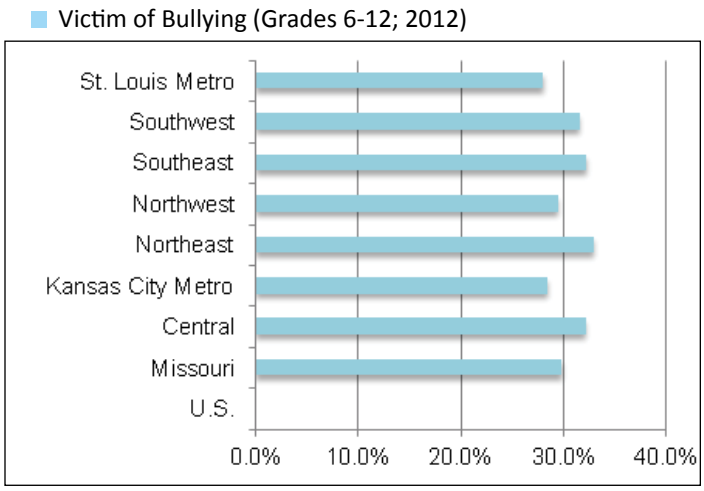


Figure 17–Bullying Victim Rates for Regions, Compared to U.S. and Missouri

Source: Missouri Student Survey

According to the Missouri Department of Public Safety, despite the decline of drug offense arrests from 2006-2011, the societal impact of drug use in Missouri is felt in families, communities, the criminal justice system and the public health system. The Missouri drug arrests rate (585.7 per 100,000 persons) is significantly higher than the U.S. rate (491.4 per 100,000 persons). The drug arrest rates are significantly lower than the state in the Kansas City Metro (345.2 per 100,000 persons), Northeast (490.3 per 100,000 persons), Northwest (536.1 per 100,000 persons) and Southwest (458.6 per 100,000 persons) regions, while the St. Louis Metro region rate (792.1 per 100,000 persons) is significantly greater than that of the state.

Bullying is a form of violence that occurs among children and youth. Bullying can lead to social and emotional distress, injuries and even death. Persons who are victims of bullying have escalated risks for mental health issues such as anxiety and depression (Smokowski et al., 2005). All regions of the state have approximately the same rate (29.8 percent) of victims of bullying, with no statistical differences between the regions.

Note: Significance higher or lower than the state is at $p \leq .05$.

Racial Health Disparities in Missouri

Americans as a group are healthier and experiencing increased life spans, while racial and ethnic subgroups and poor people in the country are living with poor health across multiple conditions and situations.[28,29] The term *health disparities* is often used interchangeably with racial and ethnic disparities; however the National Institutes of Health (NIH) defines health disparities as *"differences in the incidence, prevalence, mortality and burden of diseases and other adverse health conditions that exist among specific population groups in the U.S. These population groups may be characterized by gender, age, race, ethnicity, education, income, social class, disability, geographic location, or sexual orientation."*[30] African Americans in Missouri are showing worse results than the general population across both health determinants and health outcomes. The 2012 unemployment rate for African Americans is 12.9 percent, compared to 7.6 percent for all Missourians. The inequality also manifests in the poverty rate, with 30.2 percent of African Americans living in poverty, compared to 15.8 percent of all Missourians.

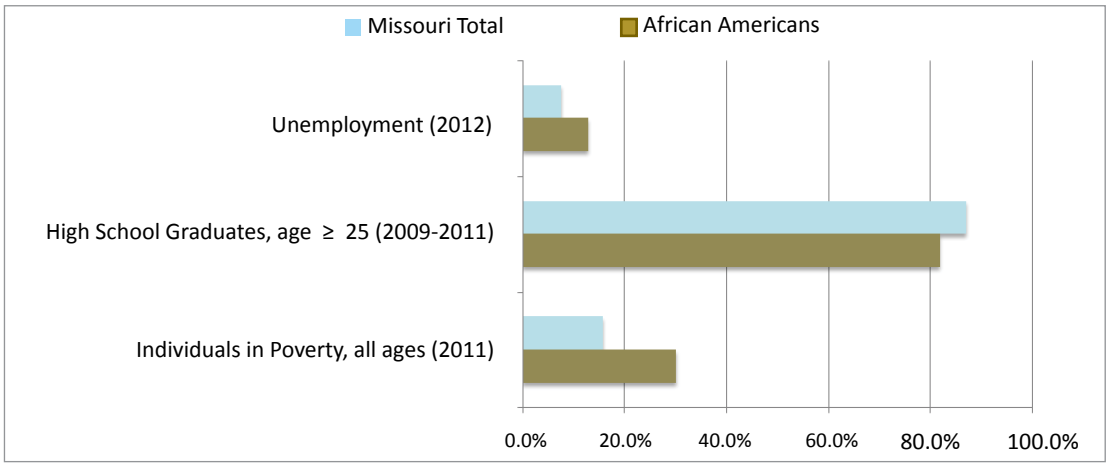
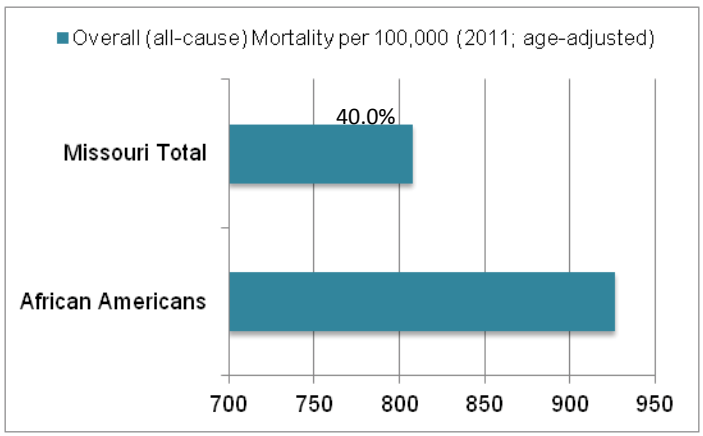


Figure 18–Social and Economic Determinants for All Missourians and African Americans
Sources: U.S. Census Bureau and Missouri Economic Research and Information Center (MERIC)



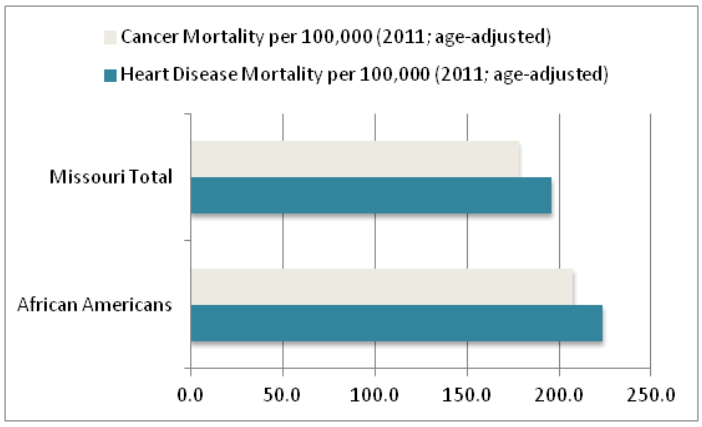


Figure 19–Overall, Cancer and H eart Disease Mortality Rates for All Missourians and African Americans
Source: Missouri Department of Health and Senior Services, Missouri Information for Community Assessment (MICA) and Centers for Disease Control and Prevention Behavioral Risk Factor Surveillance System (BRFSS)

The 2011 overall age-adjusted mortality rate for African Americans in Missouri (926.8 deaths per 100,000 persons) is 15 percent higher than that of all Missourians (808.1 deaths per 100,000 persons). The rate of deaths from heart disease for African Americans is 224.0 deaths per 100,000 persons compared to 196.4 deaths per 100,000 persons for all Missourians. The rate of deaths from cancer for African Americans is 207.9 per 100,000 persons compared to 178.3 per 100,000 persons for all Missourians.

The infant mortality rate for African Americans (14.9 deaths per 1,000 live births) is more than double the rate for all Missourians (7.3 deaths per 1,000 live births). These data reveal that African Americans carry a major burden for infant deaths in Missouri.

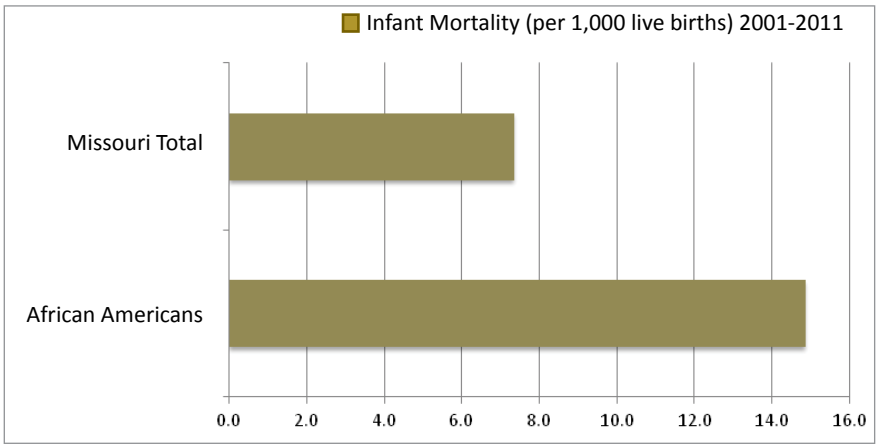


Figure 20–Infant Mortality for All Missourians and African Americans
Source: Missouri Department of Health and Senior Services Centers for Disease Control and Prevention Behavioral Risk Factor Surveillance System (BRFSS)

The 2011 HIV prevalence rate for African Americans (711.4 per 100,000 persons) in Missouri is almost four times the rate for all Missourians (186 per 1000,000 persons). The 2011 Gonorrhea rate for African Americans (703.4 per 100,000 persons) in Missouri is more than five times the rate for all Missourians (130.3 per 100,000 persons). The 2011 Chlamydia rate for African Americans (1635.3 per 100,000 persons) in Missouri is more than three times the rate for all Missourians (465.6 per 100,000 persons).

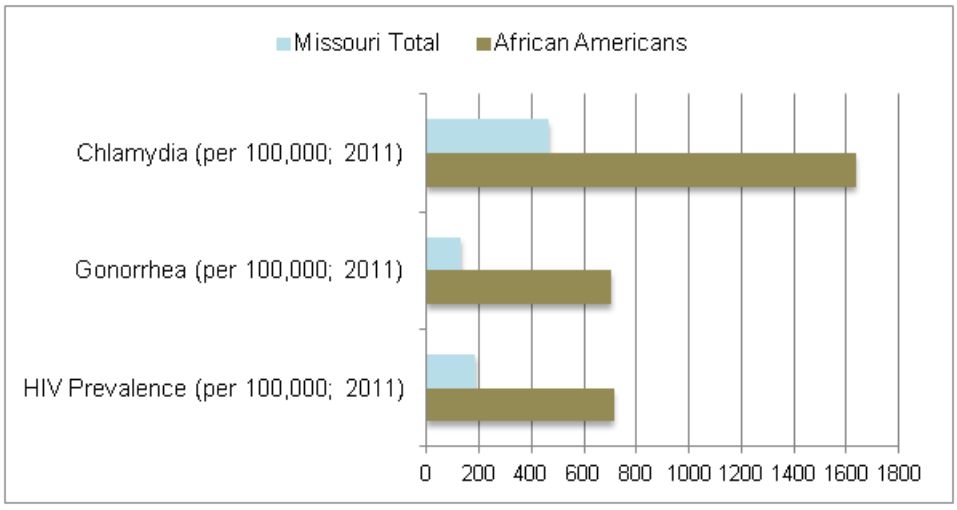
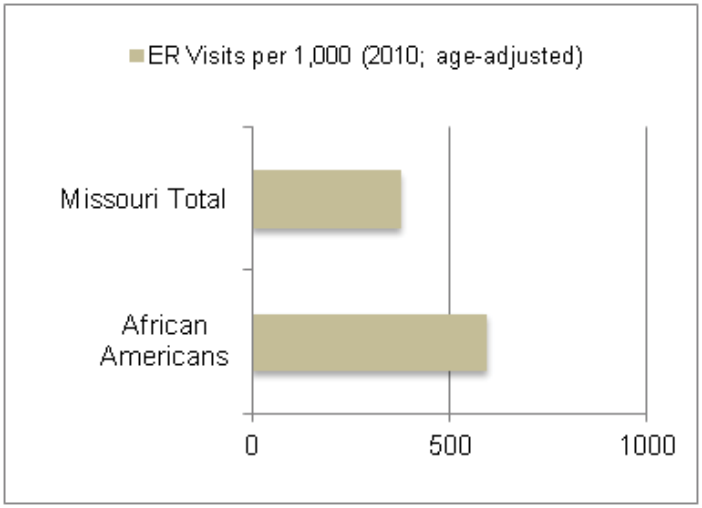


Figure 21–STD/HIV Rates of all Missourians and African Americans
Source: Missouri DHSS, Sexually Transmitted Disease Management System and Enhanced HIV/AIDS Reporting System-eHARS

The 2010 ER visits rate for African Americans (595.6 per 1,000 persons) in Missouri is much greater than the rate for all Missourians (377.4 per 1,000 persons). The 2010 Preventable Hospitalization rate for African Americans (25.9 per 1,000 persons) is nearly two times higher than the rate for all Missourians (14.1 per 1,000 person).



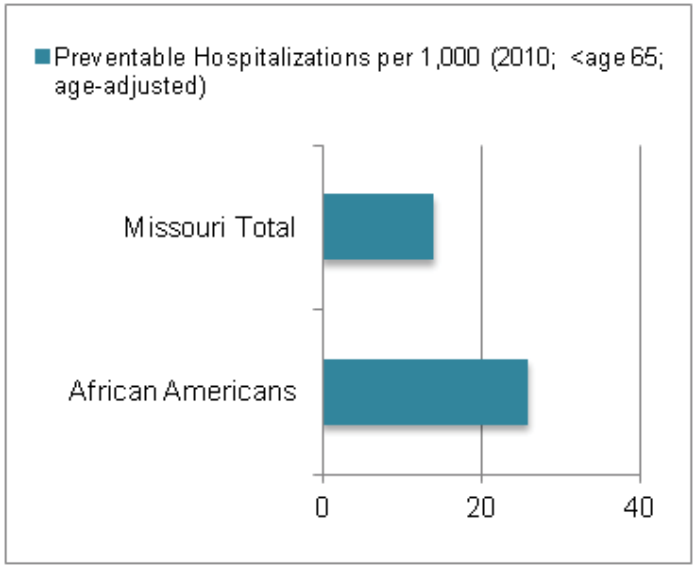


Figure 22–Clinical Care Indicators for Missourians and African Americans

Source: Missouri Department of Health and Senior Services, Missouri Information for Community Assessment (MICA)

Place matters when it comes to both health determinants and health outcomes. In Missouri, as in many states, health varies from one region to another. The 2013 County Health Rankings report ranks Missouri counties according to their summary measures of health outcomes and health factors. Counties also receive a rank for mortality, morbidity, health behaviors, clinical care, social and economic factors, and the physical environment.[31] Each of these rankings represents a weighted summary of a number of measures. Health outcomes are a proxy for how healthy a county is while health factors reveal the factors that influence the health of the county.

St. Charles County, which is located in the St. Louis Metro region, has the highest ranking for health factors which include health behaviors, clinical care, social and economic factors, and the physical environment, while St. Louis City, also part of the St. Louis Metro Region, has the lowest ranking. A large number of counties in the Southeast Region are in the lower quarter (87–115) of the health factors rankings. The health outcomes rankings again reveal St. Charles County in the top position, while

Dunklin County in the Southeast region is ranked in the lowest position. Figure 23 is a rankings map of the health factors by county. A large number of counties (N=17) in the Southeast Region are clustered in the lowest quarter (87–115) of the health outcomes rankings. In the Northwest Region of Missouri, several adjacent counties (N=5) have high rankings (1–29) for both health factors and health outcomes. Figure 24 is a rankings map of the health outcomes by county. Missourians have significant variations in their determinants of health and their health outcomes, based on where they live. Tables showing each county's rankings are included in Appendix A.

2013 Health Factors - Missouri

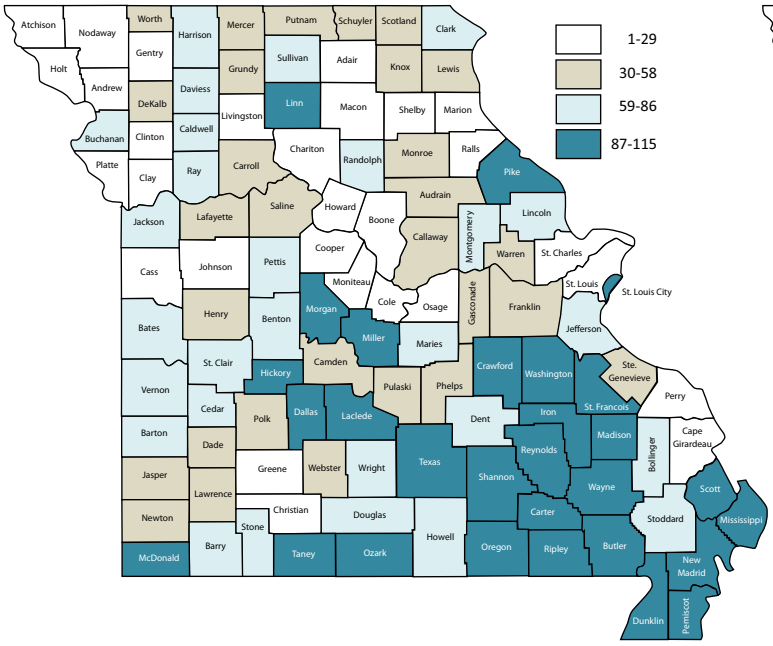


Figure 23–Health Factors by County
Source: County Health Rankings

2013 Health Outcomes - Missouri

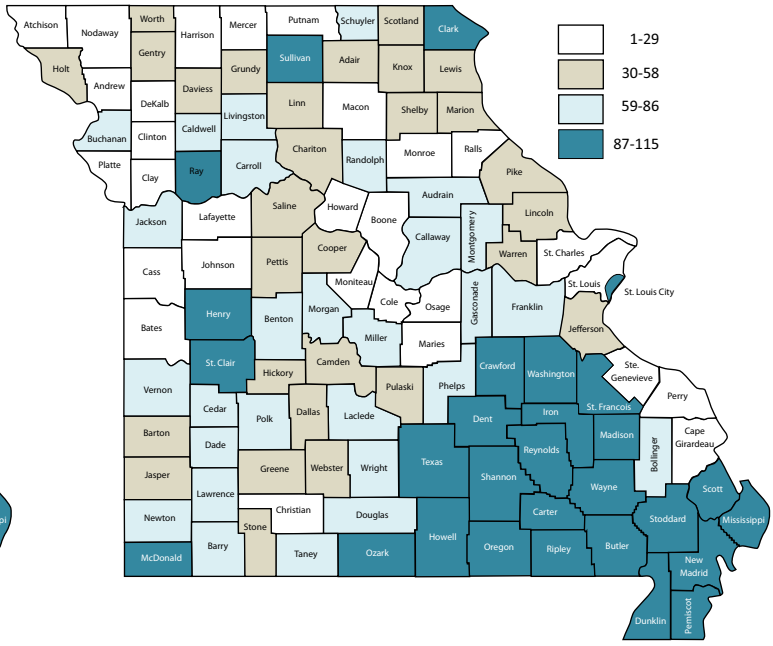


Figure 24–Health Outcomes by County
Source: County Health Rankings

State Public Health System Assessment

Background

The state public health system assessment offers a comprehensive review of all of the organizations and entities that contribute to the public's health. The assessment answers questions related to the activities, competencies and capacities of the system and how the Essential Public Health Services (EPHS) are performed in the state. The public health system consists of not just the health department but other government and non-government entities as illustrated in Figure 25. DHSS chose to utilize the National Public Health Performance Standards (NPHPS) instrument to assess the state public health system. The NPHPS assessment instruments are constructed using the EPHS as a framework.

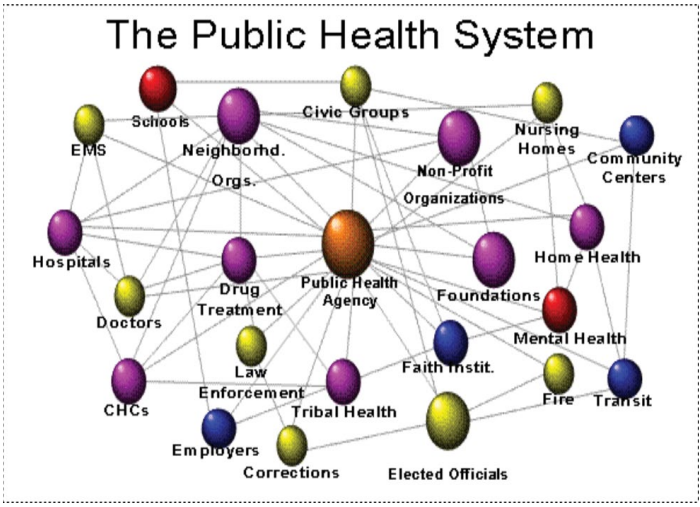


Figure 25-Public Health System (Centers for Disease Control and Prevention)

Data Collection and Analyses

A one and a half day meeting with more than 25 members of the Public Health System Partners Group and DHSS staff was held during March 2013. The meeting goals were to provide basic information on the core public health functions, the essential services and the elements of the NPHPS assessment, and to conduct the assessment.

The meeting provided background to the Partners Group on the core public health functions, the related 10 Essential EPHS and allowed for a follow-up discussion on the specific roles of the Partners Group in that context. Additionally, they reviewed and became familiar with the assessment instrument. Five Microgroups were estabished to complete the assessment components. On the second day, structured assignments related to the completion of the 10 survey components were given. Each Microgroup completed two essential service areas as proposed by the National Public Health Performance Standards Program (NPHPSP).

Within the state instrument, each EPHS includes four model standards that describe the key aspects of an optimally performing public health system. Each model standard is followed by assessment questions that serve as measures of performance. The responses to these questions should indicate how well the model standard–which portrays the highest level of performance or gold standard–is being met. The Partners Group responded to assessment questions using the response options shown in Table 3.

Table 3 - NPHPSP Survey Responses

NO ACTIVITY	0% or absolutely no activity.
MINIMAL ACTIVITY	Greater than zero, but no more than 25% of the activity described within the question is met.
MODERATE ACTIVITY	Greater than 25%, but no more than 50% of the activity described within the question is met.
SIGNIFICANT ACTIVITY	Greater than 50%, but no more than 75% of the activity described within the question is met.
OPTIMAL ACTIVITY	Greater than 75% of the activity described within the question is met.

Using the responses to all of the assessment questions, a scoring process generates scores for each first-tier or "stem" question, model standard, essential service, and one overall score. Each question and sub-question uses a five-point, Likert-type response

option that indicates the extent to which the activity is performed by the public health system. A numeric value is assigned to each response option as follows:

Response Option	Response Value
No Activity	0.00
Minimal Activity	0.25
Moderate Activity	0.50
Significant Activity	0.75
Optimal Activity	1.00

The scoring methodology for the assessment instrument establishes a weight for each question, and then multiplies the weight by the response value to obtain a weighted value for each question. These weighted values are combined to construct performance scores for each indicator and each EPHS, along with an overall performance score. For more information on the process, go to www.astho.org/Programs/Accreditation-and-Performance/National-Public-Health-Performance-Standards/.

Results

The State of Missouri public health system has an overall performance score of 46 percent, which translates to moderate activity. Table 4 provides a brief overview of the system's performance in each of the 10 EPHS. Each EPHS score is a composite value determined by the scores given to those activities that contribute to each Essential Service. These scores range from a minimum value of 0 percent (absolutely no activity is performed pursuant to the standards) to a maximum of 100 percent (all activities associated with the standards are performed at optimal levels). Missouri's range is from 14 percent (8-Assure Workforce) to 65 percent (2-Diagnose and Investigate). More detailed information on the results and outcomes of the public health system assessment are offered in Appendix B.

Table 4–EPHS Scores

EPHS		SCORE
1	Monitor Health Status to Identify Community Health Problems	46
2	Diagnose and Investigate Health Problems and Health Hazards	65
3	Inform, Educate, and Empower People About Health Issues	49
4	Mobilize Community Partnerships to Identify and Solve Health Problems	35
5	Develop Policies and Plans that Support Individual and Community Health Efforts	42
6	Enforce Laws that Protect Health and Ensure Safety	49
7	Link People to Needed Personal Health Services and Assure the Provision of Health Care when Otherwise Unavailable	54
8	Assure a Competent Public Health and Personal Health Care Workforce	14
9	Evaluate Effectiveness, Accessibility, and Quality Personal and Population-Based Health Services	62
10	Research for New Insights and Innovative Solutions to Health Problems	37
Overall Performance Score		46

Community Themes and Stregnths Assessment

Background

The community themes and strengths assessments offer a comprehensive understanding of the issues citizens and stakeholders feel are important by answering the questions related to issues, perceptions about quality of life in the state, and assets that can be used to improve the health of citizens in the state. Citizen focus groups were conducted in eight regions of the state and stakeholders from across the state were interviewed to gather this information.

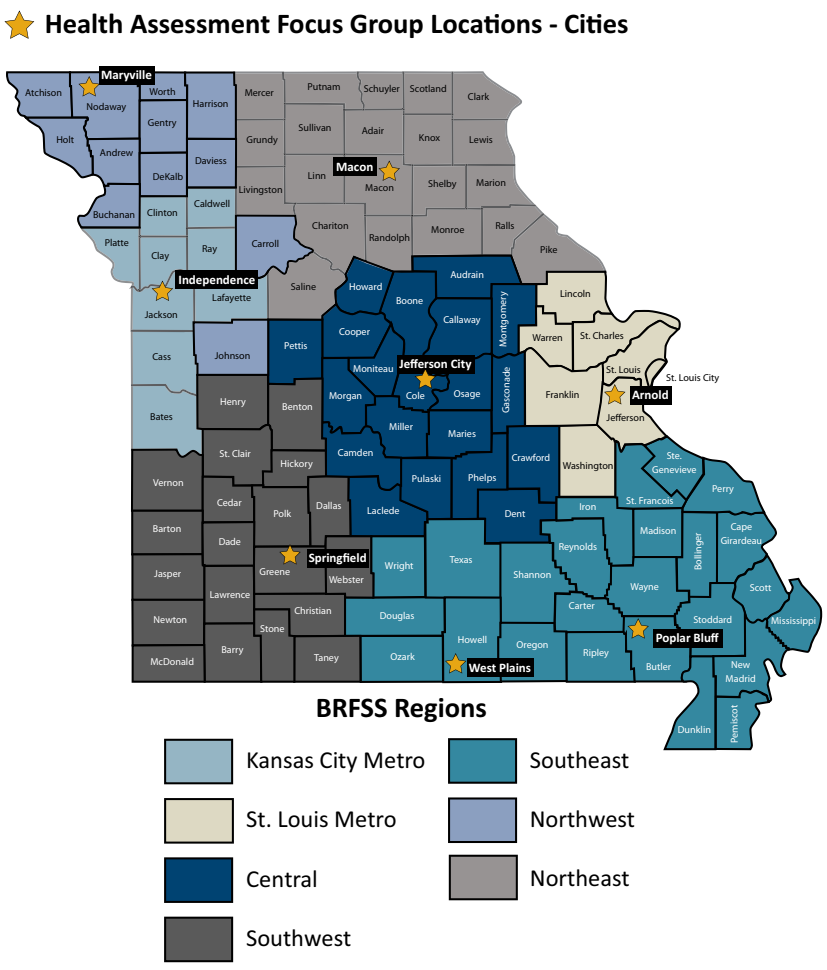
Data Collection and Analysis

Qualitative research takes place in natural settings (i.e. the community of interest), uses open-ended methods, and is emergent rather than premeditated (Creswell, 2003).[32] The analysis process is inductive and requires the investigators to engage in their interpretation of the datasets. Members of the assessment team thoroughly read all the focus group and interview transcripts at least two times, focusing on the overall questions. Each reviewer generated coding themes after the second review. The codes were converted to categories and the most salient chunks of data were placed under categories. The lead investigator reviewed these preliminary analyses from each reviewer, determined points of convergence and established a final set of themes.

Citizen Focus Groups

The criteria for participation in the focus groups were–1) must be a resident of the State of Missouri, 2) aged 18 or older and 3) willing to participate in the two-hour informational focus group meeting. The recruitment process involved the dissemination of informational flyers through e-mail and fax to the 115 local public health agencies and to more than 160 non-government entities in the eight communities that hosted focus groups. These activities yielded 110 citizens who participated in the two-hour meetings. The map in Figure 26 shows the locations across the state. The assessment team facilitated the citizen focus groups. The meetings included two components–1) a review of the health indicators for the region of each meeting and 2) the focus group discussion. The citizens were shown PowerPoint Slides that offered definitions, showed the indicators and explained the purpose of the focus groups. It was explained that no names would be used that could link any participant either directly or indirectly to comments. Each focus group was conducted using a structured discussion guide. The focus group component of the meeting was approximately 45-60 minutes in duration. The sessions were tape-recorded with the consent of the citizens. The focus groups yielded more than 155 pages of transcripts.

Figure 26–State Map with Focus Group Sites



Stakeholder Interviews

The assessment team contacted representatives from more than 195 partner organizations with a request for individuals to participate in 30-minute, one-on-one interviews related to their perceptions and beliefs about health issues, assets, challenges, and strategies in their respective regions of the state. Positive responses were received from 30 professionals in all seven regions of the state. Interviews were conducted with 23 professionals–seven were nonresponsive or cancelled. The information in Table 5 shows the professional categories of the stakeholder/key informants.

The assessment team conducted telephone interviews with 23 stakeholder/key informants. With the consent of the interviewees, they taped each interview, which lasted about between 20-40 minutes. The interviews yielded approximately 135 pages of transcripts.

Table 5–Stakeholder/Key Informant Types

Category	Number
Local Public Health Administrator/State Health	11
Statewide Association Leader	3
Health Providers (Private and Clinics)	7
Community-Based Providers	2
Total	**23**

Results

Citizen Focus Groups

The perceptions, beliefs, and needs shared by the Missouri citizens in the eight focus groups converged into eight common themes:

Health Insurance	**Jobs**
Public Entitlement Benefits	**Mental Health and Substance Abuse**
Healthy Lifestyle	**Public Awareness and Training**
Seniors	**Policy Makers**

The information in Table 6 shows a summary of specific information from each focus group.

Table 6 - State Health Assessment Focus Groups

Location	Date	# of Citizens	Key Issues	Proposed Solutions
Arnold	4/22/13	15	Insurance, Health Care Costs, & Economics	Public Awareness and Training, Greater Political Will & Transparency
Independence	4/8/13	12	Insurance, Economics & Public Entitlement Benefits	Public Awareness and Training & Improved Access to Public Entitlement Benefits
Jefferson City	4/15/13	16	Insurance and Health Care Costs	Public Awareness and Training & Greater Political Will and Transparency
Macon	4/18/13	16	Economics, Insurance, Substance Abuse; Mental Health, Provider Shortage & Quality	Public Awareness and Training & Jobs
Maryville	4/11/13	10	Insurance and Elderly	Sustain the Funding for Needed Services & Public Awareness and Training
Poplar Bluff	4/24/13	12	Economics, Mental Health, Substance Abuse, Insurance, & Health Care Costs	Public Awareness and Training, Jobs, & More Spirituality
Springfield	4/1/13	15	Insurance, Public Entitlement Benefits, & Economics	Fraud Reduction & Public Awareness and Training
West Plains	4/4/13	14	Insurance, Public Entitlement Benefits, & Economics	Jobs & Public Awareness and Training

The citizens' perceptions related to the impact of economics and lack of insurance converge with the health status indicators that show the decline in insurance and increase in persons living below the poverty level. The participants shared common stories about the fiscal and emotional pressures of lost jobs and lack of health insurance. Many with insurance are overwhelmed by extremely high deductibles. Citizens also revealed their dismay over the chronic disease and mortality burdens in Missouri and believe that economic issues take precedence over their health outcomes. They described how expensive it is to live healthy, given the high cost of nutritious foods and the lack of safe and affordable venues for physical activity. However, they expressed a need for public awareness and training about health issues and available health services.

Stakeholder Interviews

The perceptions, opinions, and beliefs of the professional stakeholders are thoughtful and based on their direct experiences in public health, community-based health services, social work, social services and health services. Seven common themes emerged from the analyses of the interview transcripts:

- Modifiable Risk Factors
- Health Services Access and Cost Issues
- Fragile Populations
- Inadequate Resources
- Emerging Mental Health Issues
- Commitment and Collaboration
- Innovative Solutions

The information in Table 7 shows the summary of outcomes from the stakeholder interviews.

Table 7–Stakeholder Interview Themes and Summary

Themes	Summary Statements of Perceptions
Modifiable Risk Factors	Smoking, nutrition, physical activity, screenings and adequate prenatal care are health behaviors that require attention in most regions.
Health Services Access and Cost Issues	Those without insurance have difficulty getting health and dental services.
Fragile Populations	The poor, unemployed, underemployed, women with children, immigrants and the elderly have difficulties accessing services.
Emerging Mental Health Issues	More of the agencies' consumers are requesting and needing services for depression, substance abuse and/or other mental health complaints.
Inadequate Resources	Many agencies face funding challenges and are concerned about future financial resources in the face of federal sequestration and fiscal uncertainties.
Collaboration and Commitment	Most organizations are forming collaborations and partnerships to assure that they can meet their missions.
Innovative Solutions	Several organizations described innovative projects and interventions that can be diffused throughout the state. The Missouri Foundation for Health is viewed as a strong asset across the state.

Forces of Change Assessment

Background

The Forces of Change Assessment focuses on the identification of forces such as legislation, technology, and other impending changes that affect the context in which the community and its public health system operates. The assessment answers two primary questions:

1. What is occurring or might occur that affects the health of our community or the local public health system?
2. What specific threats or opportunities are generated by these occurrences?

Data Collection and Analyses

The assessment team planned and facilitated a one-day meeting in May 2013 that involved 26 members of the Public Health System Partners Group. The group completed self-guided tasks in four separate work groups using structured worksheets. The following categories were defined and used in the completion of the worksheets:

Social–The relationship between individuals and groups.

Economic–Resources, employment, wealth and funding.

Political–Policies, laws, legislative actions, and the individuals/groups that control the legislative system.

Environmental–The built, natural and social systems that individuals and groups inhabit.

Legal–judicial and justice system, norms, and values

Ethical–The rules and standards for right conduct and integrity.

The assessment team conducted a content analysis of the worksheets, identifying common themes across the various components. The summary of results is presented in Appendix C.

Results

The Partners Group identified three primary threats that impact the health status of the citizens of Missouri and the public health system:

- The economic downturn and budget cuts in both the state and the U.S. adversely affect services to the most vulnerable populations and undermine past achievements.
- Some lawmakers don't appreciate the value of public health and some policies in the state confound and perpetuate growing economic gaps that lead to "haves and have-nots".
- Organizations are engaged in competition for limited resources to meet their respective missions, and such an environment inhibits collaborative partnerships.

The group welcomed the opportunity to explore assets and opportunities and they offered a list of organizations and circumstances that could facilitate efforts to improve the public health system and consequently the overall health and well-being of Missourians:

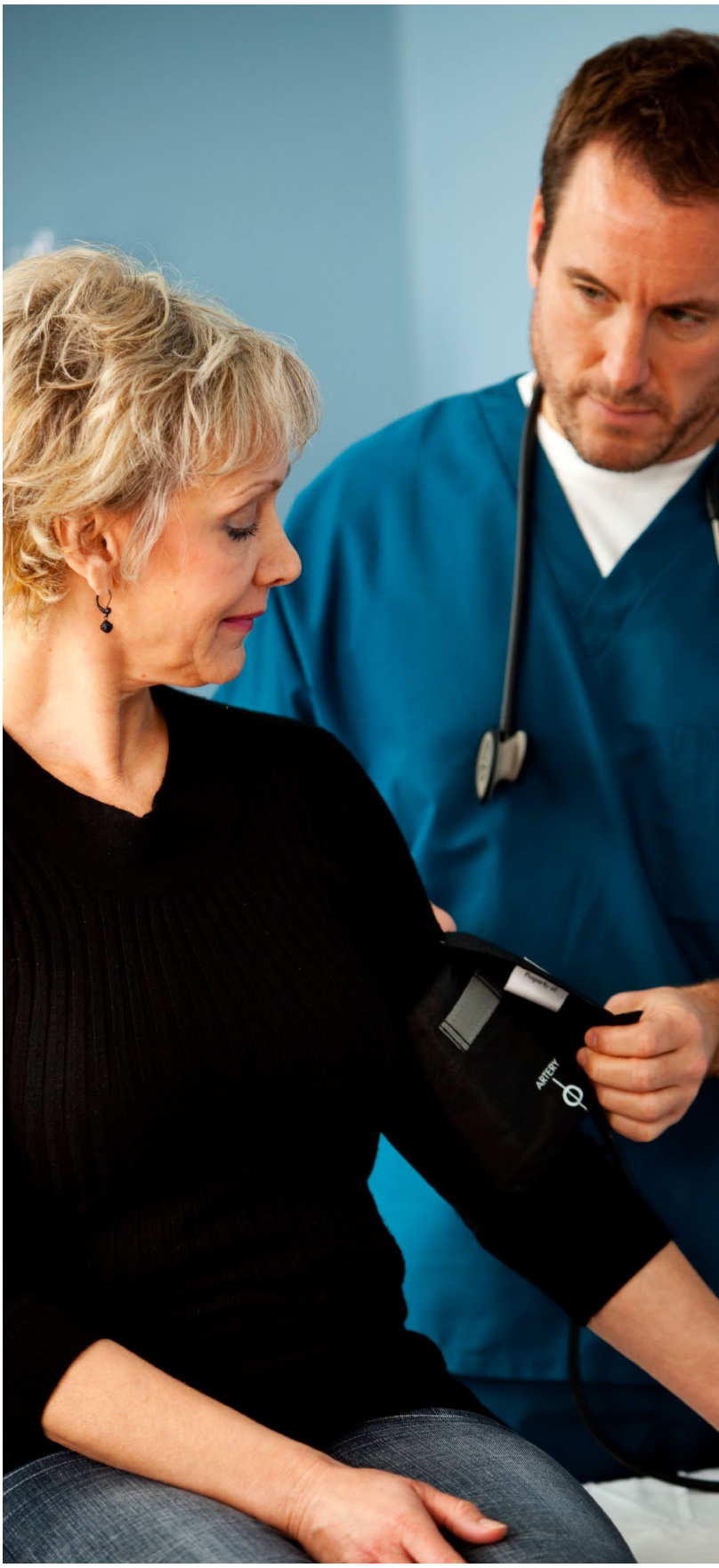
- The 115 local public health agencies and their commitment to serving, assuring, and protecting the health of their consumers;
- The Missouri Foundation for Health has been a major force in the provision of funding and technical assistance that fill gaps in services and support innovation;
- The ability to collaborate with diverse state agencies (e.g. Mental Health, Social Services, Public Safety, Economic Development), nontraditional partners, and stakeholders across the state; and
- The structure and activities of the national accreditation process facilitate the engagement of stakeholders at multiple ecological levels and a focus on quality improvement.

Strategic Priority Issues

Strategic issues reveal the changes that must occur in order for the vision of the health improvement plan to be achieved. The results of the MAPP assessments offer important contextual information and the foundation for creation of the Statewide Health Improvement Plan.

- The *state* surveillance data on health determinants and health outcomes reveal the health status of citizens and often show disparities based on region, race, age and gender. Moreover, the health status data point to possible health goals, and issues that require responses and action.
- The *community themes* and strengths assessment gives meaning and context to the indicators data and offer the opinions and experiences of the citizens and stakeholders.
- The *public health system* assessment reveals both the strengths and weaknesses of the public health infrastructure. The quality and effective functioning of this system is integral to the health and well-being of those being served. Plans for addressing health issues must be realistic and considerate of the threats and opportunities that may impact both the public health system and the health of the public.
- The *forces of change* assessment guides public health partners through the careful exploration of external forces that may influence the implementation of the health improvement plan.

Using the outcomes of the four MAPP assessments, the Partners Group identified ten issues. In the following subsections, each issue is presented with background information and an overview of the threats and opportunities that may affect improvement strategies.



Uninsured

Driven by the slow economic recovery, in 2011 more than 48 million nonelderly U.S. citizens were uninsured.[33] The Kaiser Family Foundation has identified several key facts related to the uninsured in the U.S.[34] :

- More than half of people under the age of 65 receive health coverage as an employment benefit, consequently the loss of a job leads to the loss of insurance.
- Most people without health coverage are in working families and have low incomes through low paying and part-time jobs.
- Adults make up a disproportionate share of the uninsured population because they are less likely than children to be eligible for Medicaid.
- While the majority of uninsured people are White non-Hispanic, racial/ethnic minorities are at especially high risk of being uninsured.
- Health insurance is a deciding factor in whether and when people get necessary medical care, where they get their care, and ultimately, how healthy they are.
- For many uninsured people, the costs of health insurance and medical care compete with other essential needs.

The Patient Protection and Affordable Care Act of 2010 has the potential to decrease the number of uninsured in several ways:

- Expanding the Medicaid program (states must agree and approve)
- Building on employer-based coverage using requirements and incentives
- Providing premium subsidies and health exchanges to make private insurance more affordable

Missouri Forces of Change That May Impact Strategies to Respond to the Uninsured Issue	Missouri Current Assets that May Facilitate the Strategies to Respond to the Uninsured Issue
• Antigovernment sentiments • Fewer factories and jobs with benefits • Recession • Increasing disparities in wealth and economic opportunities • Government regulations that restrict business • Aging population	• Innovative initiatives from national and state foundations • Increased push for living wages • Implementation of the Patient Protection and Affordable Care Act of 2010 • State and federal legislative advocacy • State Medicaid Program • Federally Qualified Health Centers • Hospitals and the Missouri Hospital Association

Source: Extracted from Missouri Forces of Change Appendix C located on page 64.

When you don't have insurance, it's kind of like playing musical chairs with your bills and your meds, you know. I've got people that do that.

Poplar Bluff Participant, April 24, 2013

Obesity

According to the Centers for Disease Control and Prevention (CDC), from 2009–2010, more than one-third of adults and almost 17percent of youth in the U.S. were obese.[35] Being either obese or overweight increases the risk for many chronic diseases (e.g., heart disease, type 2 diabetes, certain cancers, and stroke). The obesity epidemic in the U.S. must be confronted using ecological approaches that focus on multiple levels of influence (individual, family, community, organization, and policies). In 2009, CDC initiated the Common Community Measures for Obesity Prevention Project (the Measures Project).[36] The objective of the Measures Project was to identify and recommend a set of strategies and associated measurements that communities and local governments can use to plan and monitor environmental and policy-level changes for obesity prevention. The report identifies 24 recommended strategies for obesity prevention and a suggested measurement for each strategy that communities can use to assess performance and track progress over time. The 24 strategies are divided into six categories:

1. strategies to promote the availability of affordable healthy food and beverages,
2. strategies to support healthy food and beverage choices;
3. a strategy to encourage breastfeeding;
4. strategies to encourage physical activity or limit sedentary activity among children and youth;
5. strategies to create safe communities that support physical activity; and
6. a strategy to encourage communities to organize for change.

Missouri Forces of Change That May Impact Strategies to Respond to the Obesity Issue	Missouri Current Assets that May Facilitate the Strategies to Respond to the Obesity Issue
• Low public health funding that yield competition instead of collaboration • Value judgments placing blame on the individual • Policymakers that don't understand the importance of public health • Lack of health promoting legislation • Individuals who believe living healthy (nutrition and physical activity) competes with other essential needs	• Community based coalitions • Community level academic research • Food system changes that focus on local grown foods • Infrastructure and environmental initiatives that focus on streets, sidewalks and green space • Local Public Health Systems and their current activities • Health care providers that focus on prevention • Social Media strategies

Source: Extracted from Missouri Forces of Change Appendix C located on page 64.

Yes. I know we really talk about it but obesity is a huge cause, and I think a lot of people are afraid to say you need to lose some weight.

West Plains Citizen, April 4, 2013

Smoking

Smoking is associated with multiple chronic diseases such as cancer, heart disease, stroke, and lung diseases (including emphysema, bronchitis, and chronic airway obstruction).[37,38] For each person who dies from a smoking-related disease, 20 additional persons live with at least one serious smoking-related illness.[39] In 2011, 21.2 percent of adults in the U.S. smoked cigarettes.[40] Each day in the United States, over 3,800 young people less than 18 years of age smoke their first cigarette, and over 1,000 youth under age 18 become daily cigarette smokers.[41] Most Americans who begin daily smoking during adolescence are addicted to nicotine by young adulthood. Despite the well-known health risks, youth and adult smoking rates that had declined over several years have stalled.[42]

To help reduce the national prevalence of cigarette smoking among adults to the *Healthy People 2020* target of 12 percent, population-based prevention strategies (e.g., increasing prices of tobacco products, anti–tobacco media campaigns featuring graphic personal stories on the adverse health impact of smoking, smoke-free laws for workplaces and public places, and barrier-free access to help quitting) will need to be implemented more extensively. Such evidence-based tobacco control interventions can help adults quit and prevent the initiation of tobacco use.[43] According to the 2012 Surgeon General's report, many interventions have supported the curtailment of factors that encourage young people to begin tobacco use.[44] The Tobacco Master Settlement Agreement in 1998 reduced advertising that appealed to youth. Also, the U.S. Food and Drug Administration regulation of tobacco and tobacco advertising and products supports the decrease in the appeal of tobacco use to young people. Multilevel and coordinated interventions that include comprehensive community programs, mass media campaigns, statewide tobacco control programs, purchasing policies, and school-based policy initiatives have proven effective in preventing the onset and use of tobacco products among youth and young adults.

Missouri's smoking rate for adults is 23%, compared to the national adult rate of 21.2%.

Missouri Forces of Change That May Impact Strategies to Respond to the Smoking Issue

- Individuals not understanding risky health behaviors and the impact on their health
- Low public health funding that yield competition instead of collaboration
- Value judgments placing blame on the individual
- Policymakers that don't understand the importance of public health
- Lack of health promoting legislation

Missouri Current Assets that May Facilitate the Strategies to Respond to the Smoking Issue

- Community based coalitions
- Community level academic research
- Local Public Health Systems and their current activities
- Health care providers that focus on prevention
- Social Media strategies

Source: Extracted from Missouri Forces of Change Appendix C located on page 64.

Economics

Economic issues manifested as a prevailing theme in all eight focus groups. Social determinants are the "causes of the causes" and include the economic and social conditions that determine the health of individuals, groups and communities as a whole.[45] The inequitable distribution of income, resources and power locally, nationally and globally is directly linked to unfairness in the well-being and immediate outcomes of the lives of people. These social factors impact "their access to health care, schools and education, their conditions of work and leisure, their homes, communities, towns, or cities–and their chances of leading a flourishing life".[46] A person's health is shaped by behaviors, which in turn are associated with his or her socioeconomic level (e.g., income, education, opportunities) and the corresponding environmental setting (e.g., poverty levels, availability of jobs, health care access).[47]

The Institute of Medicine (IOM) 2010 report, *For the Public's Health: The Role of Measurement in Action and Accountability* confirms and emphasizes how imperative it is to address underlying factors that contribute to poor health, not just disease outcomes.[48] Also, the goals and objectives of *Healthy People 2020* have identified social determinants as one of its 42 topic areas for the first time.[49] The HealthyPeople.gov site offers the following examples of social determinants:

- Availability of resources to meet daily needs (e.g., safe housing and local food markets)
- Access to educational, economic and job opportunities
- Access to health care services
- Availability of community-based resources in support of community living and opportunities for recreational and leisure-time activities
- Transportation options
- Public safety
- Social support
- Social norms and attitudes (e.g., discrimination, racism and distrust of government)
- Exposure to crime, violence and social disorder
- Socioeconomic conditions (e.g., concentrated poverty and the stressful conditions that accompany it)
- Residential segregation
- Language/Literacy
- Access to mass media and emerging technologies
- Culture

Missouri Forces of Change That May Impact Strategies to Respond to the Economics Issue	Missouri Current Assets that May Facilitate the Strategies to Respond to the Economics Issue
• National and local recession • Jobs and businesses retreating from rural areas of the state • Increasing gap between the haves and have-nots • Full time jobs with living wages being replaced by part-time low wage jobs • Multi-generational poverty	• Community and financial resources that are available from the Missouri Department of Economic Development • Services and programs offered by the Missouri Division of Workforce Development • Programs and activities of the Missouri Economic Development Council

Source: Extracted from Missouri Forces of Change Appendix C located on page 64.

Mental Health and Substance Abuse

Wellness means overall well-being and incorporates the mental, emotional, physical, financial, occupational, intellectual, environmental and spiritual aspects of a person's life.[50] Most self-destructive behaviors are linked to behavioral health issues (substance abuse, poor emotional health and mental disorders).[51] These personal behaviors, when left unaddressed, place an enormous burden on families and communities–contributing to premature losses of lives and great expenditures of personal and public dollars.

Mental Health

The World Health Organization defines mental health as "a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively, and is able to make a contribution to his or her community".[52] Mental health promotion involves helping people to enhance their health and well-being, develop and sustain positive self images, engage in positive actions in their communities and support resiliency and the ability to manage challenges.[53] Moreover, mental health interventions reduce the risks related to developing a mental illness or a substance use disorder and may help delay the onset or reduce the severity of a mental illness.

Substance Abuse

In 2011, in the U.S. an estimated 20.6 million persons aged 12 or older were classified with substance dependence or abuse. Of these, 2.6 million were classified with dependence or abuse of both alcohol and illicit drugs, 3.9 million had dependence or abuse of illicit drugs but not alcohol, and 14.1 million had dependence or abuse of alcohol but not illicit drugs.[54] The most commonly used and abused drug in the U.S. is alcohol. Alcohol-related motor accidents are the second leading cause of teen death in the United States. The most commonly used illegal drug is marijuana. Based on a survey by the CDC in 2011, 71 percent of high school students nationwide had had at least one drink of alcohol on at least 1 day during their life and nationwide, 40 percent of students had used marijuana one or more times during their life.[55] According to the U. S. Substance Abuse and Mental Health Services Administration, recovery from mental health and substance abuse issues are supported by treatment and support services in the community that include:

"**Health**—overcoming or managing one's disease(s) or symptoms. **Home**—a stable and safe place to live. **Purpose**—meaningful daily activities, and the independence, income, and resources to participate in society. **Community**—relationships and social networks that provide support, friendship, love, and hope". [56]

Missouri Forces of Change That May Impact Strategies to Respond to the Mental Health and Substance Abuse Issue	Missouri Current Assets that May Facilitate the Strategies to Respond to the Mental Health and Substance Abuse Issue
• The stigma associated with mental health issues	• Programs and activities of the Missouri Department of Mental Health
• Social and mental health issues are not a policy priority	• The Affordable Health Care Act of 2010 extends federal parity protections for mental health and substance abuse
• Fragmented families	• The advocacy work of the Missouri Mental Health Counselors Association
• Illicit drug sales and use in response to economic challenges and needs	• The activities of the Missouri Addiction Counselors Association
• Lack of insurance is an inhibitor for those that need treatment	• The programs and activities of the Missouri Peace Officers Association
	• Programs and activities of the Missouri Department of Public Safety

Source: Extracted from Missouri Forces of Change Appendix C located on page 64.

Health Services Access and Costs

There are three major policy issues related to health care–***costs, access, and quality***. Health care costs involve expenditures for visits to physician and non-physician providers in office settings; visits to physician and non-physician providers in hospital out-patient settings, and emergency rooms; expenditures for hospital in-patient stays including facility and professional fees; expenditures for prescription drugs; and expenditures for home health care services, medical equipment, and other medical devices. Access to health care is defined as the ability of a person to seek and receive a regular and usual form of treatment and care for health concerns. Socioeconomic level, geographic region, and race are all barriers to access to health care. [57] There are at least three problems that have been identified with access to health care: no insurance, underinsurance, and difficulty in getting care in a prompt manner. Despite the technological advances and massive expenditures for health services in the United States, the health status of Americans compares poorly with most other developed countries. Large health inequalities exist between rich and poor, insured and uninsured, rural and urban, black and white (and other racial and ethnic groups) with access to health services being a contributing factor.[58] Many health care advocates and experts believe the Patient Protection and Affordable Care Act of 2010 offers several strategies that may improve health care access issues.[59] According to Rand (2011), between 1999 and 2009, total spending on health care in the United States nearly doubled, from $1.3 trillion to $2.5 trillion.[60] Most families and households experience the costs of health care in two manifestations–their share of the monthly premium of private insurance and through the costs for deductibles, copayments, medications and other needed health items. The American Medical Association (AMA) has identified four broad strategies to contain health care costs and get the most for our healthcare dollars:[61]

- Reduce the burden of preventable disease
- Make health care delivery more efficient
- Reduce non-clinical health system costs that do not contribute to patient care
- Promote value-based decision-making at all levels

Total annual health care spending in Missouri exceeded $41 billion in 2009, with the state showing somewhat higher-than-average per capita health spending when compared to national statistics ($6,967 versus $6,815).

Kaiser State Health Facts

Missouri Forces of Change That May Impact Strategies to Respond to the Health Services Access and Cost Issues	Missouri Current Assets that May Facilitate the Strategies to Respond to the Health Services Access and Cost Issues
• Recession and budget cuts • Loss of jobs and insurance placing stress on the healthcare safety net • Aging population and end of life issues • Debates about care priority based on lifespan (children versus the elderly) • Decrease in providers that accept Medicaid	• Innovative initiatives from national and state foundations • Implementation of the Patient Protection and Affordable Care Act of 2010 • State and federal legislative advocacy • State Medicaid Program • Federally Qualified Health Centers • Hospitals and the Missouri Hospital Association • Community based charitable care from individual providers

Source: Extracted from Missouri Forces of Change Appendix C located on page 64.

Modifiable Risk Factors

Decades of research and public health actions offer well-defined risk factors for the traditional chronic diseases. A diminutive set of common risk factors is responsible for most of the main chronic diseases. The modifiable risk factors, which are the same for men and women and across racial and ethnic groups, include unhealthy diet; physical inactivity; and tobacco use.[62] These causes are manifested through the intermediate risk factors of raised blood pressure, raised glucose levels, abnormal blood lipids, overweight and obesity. The major modifiable risk factors, in conjunction with the non-modifiable risk factors of age and heredity, explain the majority of new events of heart disease, stroke, chronic respiratory diseases and some important cancers.[63] Chronic diseases and poverty are interconnected in a vicious circle. The poor are more vulnerable for several reasons, including greater exposure to risks and decreased access to health services. Psychosocial stress also plays a role, especially across the lifespan. In 2009, the Centers for Disease Control and Prevention issued a call for action with a focus on strong collaborations across various sectors to take action in key areas:[64]

- Well-being through promoting individual responsibility and behavioral changes in multiple settings;
- Policy and environmental changes that promote healthy lifestyles;
- Promoting health equity through focusing on the social determinants of health;
- Translation of promising research findings to community and organizational practices; and
- Assuring a skilled, diverse, and dynamic public health workforce and network of partners.

Some of the biggest concerns are…the incidence of chronic diseases that we see in the community… and obviously a lot of those conditions are due to people's poor lifestyle choices, as far as exercise, nutrition and tobacco use are concerned.

St. Louis Metro Region Stakeholder, April 2013

Missouri Forces of Change That May Impact Strategies to Respond to the Modifiable Risk Factors Issue	Missouri Current Assets that May Facilitate the Strategies to Respond to the Modifiable Risk Factors Issue
• Low public health funding that yield competition instead of collaboration • Value judgments placing blame on the individual • Policymakers that don't understand the importance of public health • Lack of health promoting legislation • Individuals who believe living healthy competes with other essential needs	• Community based coalitions • Community level academic research • Infrastructure and environmental initiatives • Local Public Health Systems and their current activities • Health care providers that focus on prevention • Social Media strategies

Source: Extracted from Missouri Forces of Change Appendix C located on page 64.

Commitment and Collaboration through Mobilizing Partnerships

The essential services area of mobilizing community partnerships focuses on the engagement of organizations and citizens in the understanding of health issues and activities to respond to the issues. The activities performed in delivering this service include:

- Constituency development and identification of system partners and stakeholders
- Coalition development
- Formal and informal partnerships to promote health improvement

The terms partnership and collaboration are often used interchangeably, but the concepts hold different positions on a continuum of involvement between two or more parties.[65] An illustration is shown in Figure 27.

The primary characteristics of a partnership include: trust; the need for partners to share the same vested interest; and the need for appropriate governance structures, while the key elements of collaboration are: an intellectual and cooperative engagement; members' knowledge and expertise are more important than title; joint venture; team work; and participation in planning and decision making.[66, 67] According to Roussos and Fawcett (2000), collaborative partnerships involve individuals and organizations from numerous sectors working together on a common issue or purpose. In the public health system, partnerships are used to develop and implement strategies that improve health conditions and outcomes.[68] The primary elements of an effective collaborative partnership are:

- Committed and Motivated Partners
- Trust Among and Between Partners
- Open Communications
- A Shared Vision and Common Goals with an Action Plan
- Team Work and Expertise
- Mechanism for implementing and Sustaining Action

Adapted from Rinehart et al. 2001[69]

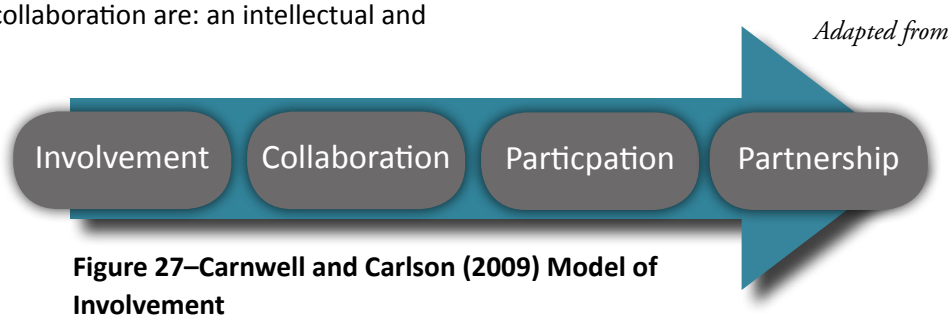


Figure 27–Carnwell and Carlson (2009) Model of Involvement

Missouri Forces of Change That May Impact Strategies to Respond to the Partnership/Collaboration Issue	Missouri Current Assets that May Facilitate the Strategies to Respond to the Partnership/Collaboration Issue
• Limited funds and resources that lead to competition versus collaborations • Historical trust issues between government agencies and community groups • Historical trust issues between academic centers and community groups • Funding that promotes the segregation of issues that have common risk factors and silo type strategies • Systems that are overwhelmed by consumers that are sicker with greater social and economic needs	• Emerging funding trends that require collaboration • Organizational need to collaborate and partner to meet mission • Using technology and new media strategies to support collaborative partnerships • Using the national accreditation process to build and sustain collaborative partnerships

Source: Extracted from Missouri Forces of Change Appendix C located on page 64.

Assure Workforce

Public health is what a society does to collectively "assure the conditions in which people can be healthy".[70] A competent and experienced workforce with the highest level of knowledge and functioning is imperative to achieve statewide, as well as public and personal health goals. According to the American Public Health Association (APHA, 2006), the public health workforce in the U.S. is facing a decline in both numbers and resources available to support public health services.[71] Additional contextual factors that will impact the public health workforce are implementation of the Patient Protection and Affordable Care Act of 2010, new national accreditation standards and state budget cuts that reduce the size of public health agencies that are the backbone of state public health systems. Essential Service Eight of the 10 Essential Public Health Services focuses on the *assurance of a competent public health and personal health care workforce*. Activities to actualize this service area include:[72]

- Education and training for personnel to meet the needs for public and personal health service;
- Efficient processes for licensure of professionals and certification of facilities with regular verification and inspection follow-up;
- Adoption of continuous quality improvement and life-long learning within all licensure and certification programs;
- Active partnerships with professional training programs to assure community-relevant learning experiences for all students; and
- Continuing education in management and leadership development programs for those charged with administrative/executive roles.

> *...So like everybody else, we're beset with a lot of resource issues. You know, we get cut, we got another 10% cut in this year's contract and....our program is vastly underfunded. It hasn't kept pace with inflation.*
>
> Statewide Stakeholder, April 2013

Missouri Forces of Change That May Impact Strategies to Respond to the Assure Workforce Issue	Missouri Current Assets that May Facilitate the Strategies to Respond to the Assure Workforce Issue
• Cuts and reduction in public health funding • Policy makers who do not understand and/or support public health • Decreasing number of young people being trained in the public health field, combined with an older public health workforce that will retire, soon	• Forming more innovative partnerships between Schools of Public Health, state agencies, colleges, schools and other partners in the public health system • Support for increased federal incentives for those entering and completing public health and health care training • The Patient Protection and Affordable Care Act of 2010 creates new programs that support workforce expansion and development

Source: Extracted from Missouri Forces of Change Appendix C located on page 64.

Performance Management and Quality Improvement (PM & QI)

The state public health system performance assessment involves four core model standards-1) planning and implementation, 2) state and local relationships, 3) performance management and quality, and 4) public health capacity and resources. Performance management and quality improvement focuses on the state public health system's efforts to review the effectiveness of its performance and the use of these reviews to continuously improve performance. This issue emerged because it had the lowest average scores of all the model standards. Figure 28 shows the average of the model standard scores across all 10 Essential Services of Public Health.

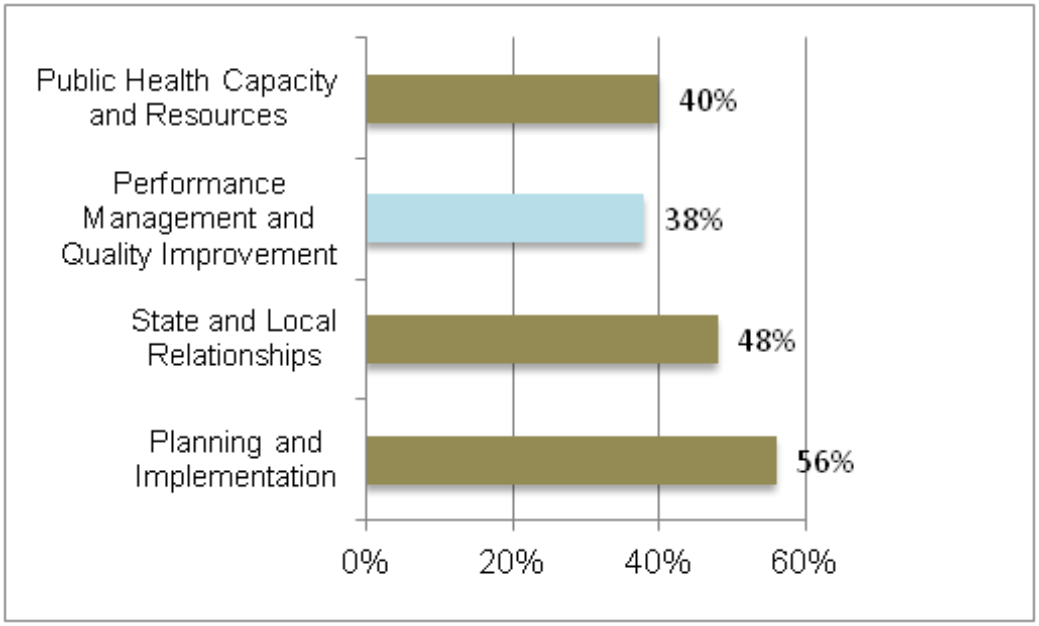


Figure 28–Model Standards Average Across Essential Public Health Services

Missouri Forces of Change That May Impact Strategies to Respond to the PM and QI Issue	Missouri Current Assets that May Facilitate the Strategies to Respond to the PM & QI Issue
• Cuts and reduction in public health funding • State cuts to the department of health leading to a reduction in workforce and resources	• The national accreditation process and strategies that engage the department staff and stakeholders from multiple sectors of the state public health system. • The department has an existing office that focuses on performance and quality improvement • Support from the Governor and the Director of DHSS

Source: Extracted from Missouri Forces of Change Appendix C located on page 64.

Summary of Issues

The ten issues converge into three primary domains that will shape the development of the state health improvement plan. Figure 29 illustrates how the Missouri process linked the four MAPP assessments to the three overarching strategic issues of health care access and costs, modifiable risk factors, and public health infrastructure.

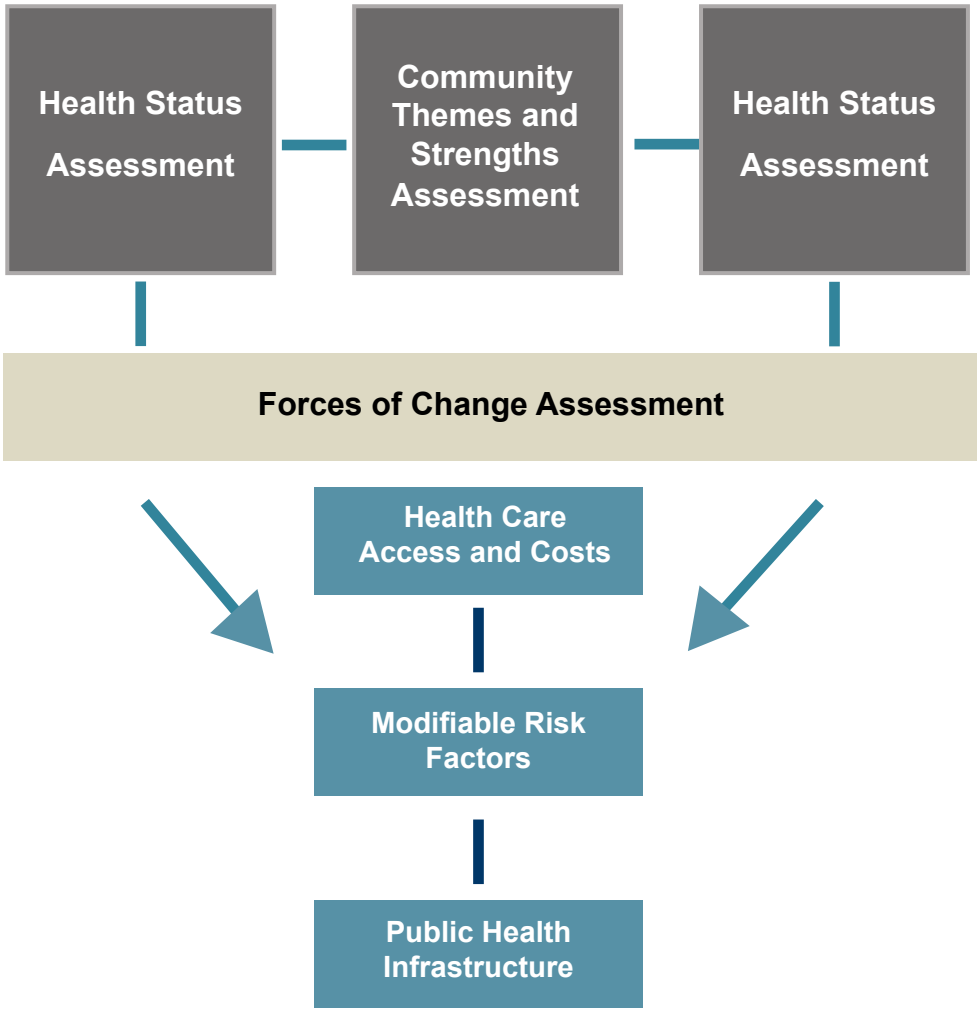
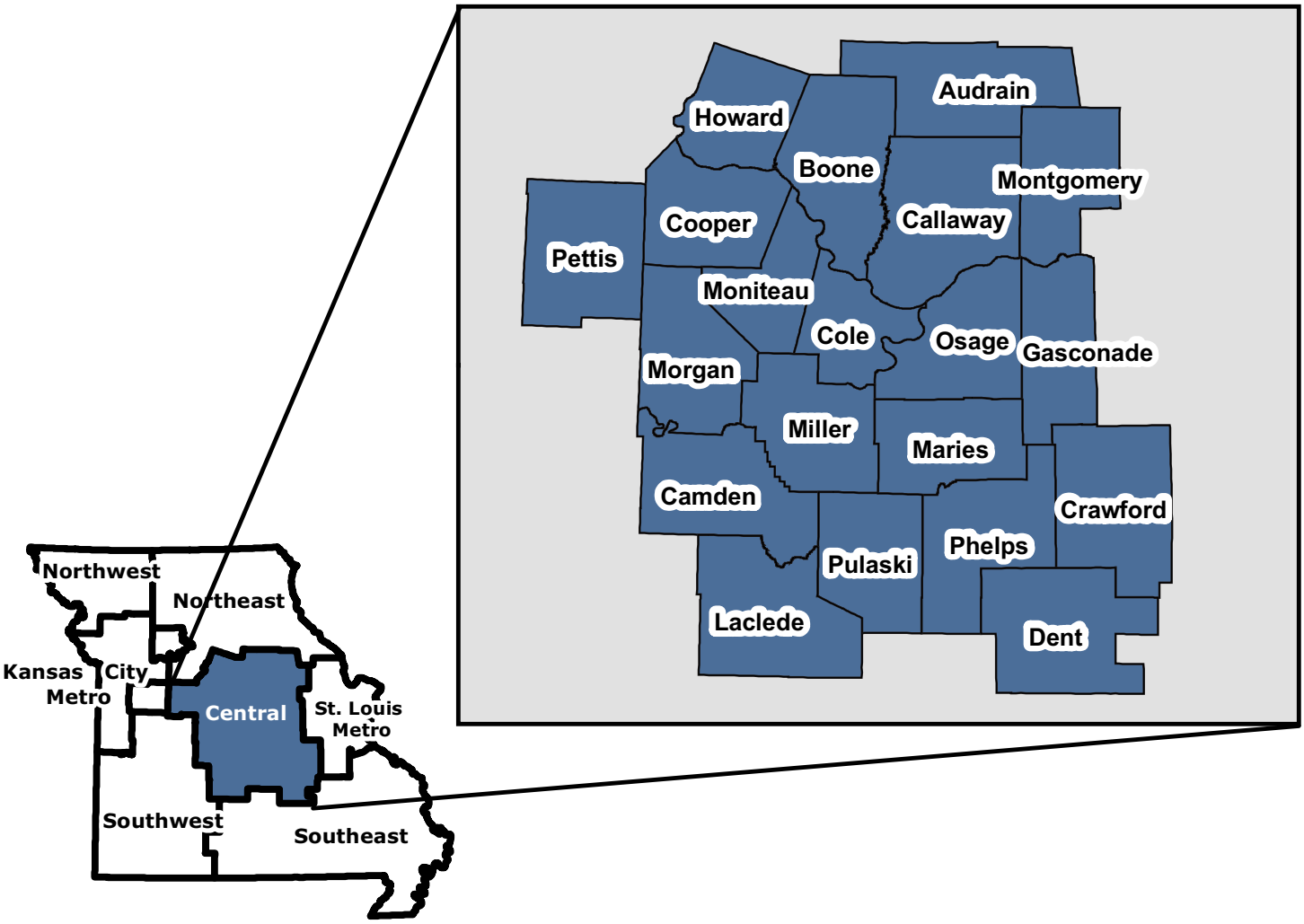


Figure 29–MAPP Assessments linked to Three Strategic Issues

Central Region



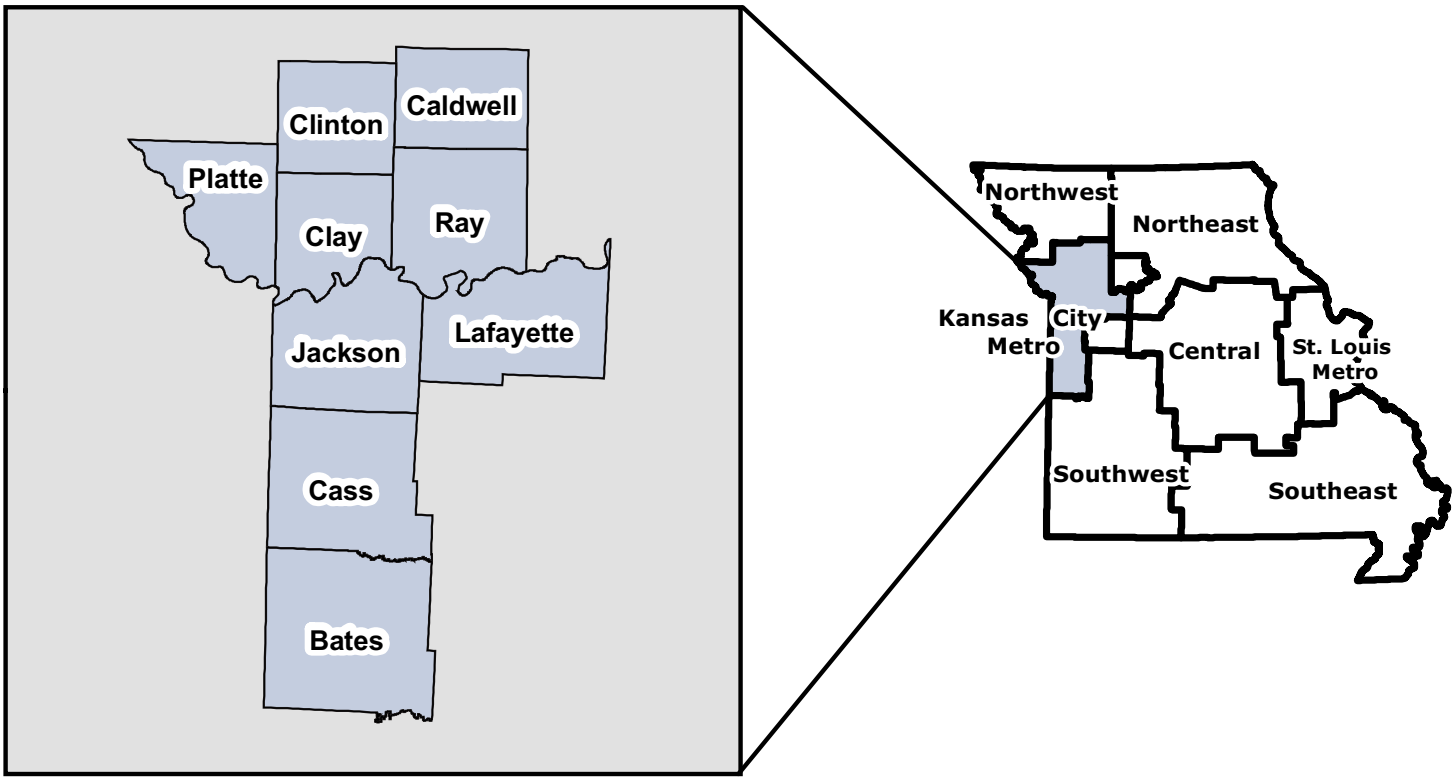
Key Indicators by Central Region Counties–Part One (@considered unstable: numerator less than 20)

County	Individuals in Poverty, all ages (2011)	Median Household Income (2011)	High School Graduates, age ≥ 25 (2007-2011)	Unemployment (Jan. 2012; not seasonally adjusted)	Obesity, age ≥ 18 (2011)	Smoking, age ≥ 18 (2011)	Student Binge Drinking, grades 6-12 (2010)	Uninsured, age ≥ 18 (2011)	ER Visits per 1,000, all ages (2010; age-adjusted)	Preventable Hospitalizations per 1,000, age < 65 (2010; age-adjusted)
Audrain	17.3%	$39,554	82.9%	6.7%	37.5%	22.8%	15.0%	23.5%	396.3	10.4
Boone	19.5%	$46,769	92.4%	4.7%	25.2%	21.1%	11.3%	18.2%	290.0	10.4
Callaway	14.1%	$45,968	86.7%	6.4%	33.8%	24.4%	13.2%	16.7%	418.0	13.5
Camden	15.5%	$40,370	89.8%	13.3%	28.1%	29.6%	14.2%	27.7%	425.6	9.1
Cole	12.3%	$54,396	89.5%	5.6%	25.8%	12.7%	11.6%	15.7%	410.8	11.8
Cooper	15.7%	$42,482	84.3%	7.9%	23.8%	24.6%	19.5%	23.2%	397.7	11.4
Crawford	20.5%	$38,215	76.6%	9.5%	32.1%	38.9%	15.6%	26.8%	450.5	13.8
Dent	20.9%	$34,288	76.5%	8.7%	34.0%	29.2%	9.8%	27.8%	617.2	12.5
Gasconade	14.3%	$39,751	83.7%	8.2%	33.6%	19.1%	8.0%	16.7%	363.5	13.0
Howard	16.1%	$42,733	85.3%	6.5%	33.9%	18.3%	11.2%	14.8%	264.0	8.3
Laclede	17.0%	$37,442	82.6%	10.2%	28.1%	22.9%	14.7%	23.8%	507.4	11.3
Maries	18.2%	$38,568	80.7%	6.6%	36.0%	22.4%	N/A	21.8%	206.4	7.8
Miller	19.4%	$35,573	83.2%	12.4%	33.5%	22.8%	7.4%	19.7%	434.6	10.8
Moniteau	14.5%	$43,931	81.6%	7.1%	32.9%	16.8%	9.8%	30.3%	316.1	9.2
Montgomery	16.9%	$38,722	79.2%	9.1%	37.2%	25.3%	12.2%	18.1%	357.6	12.3
Morgan	22.0%	$34,885	80.9%	11.7%	31.1%	22.2%	14.7%	36.7%	343.1	12.2
Osage	10.7%	$49,977	87.1%	5.4%	27.2%	15.9%	12.2%	10.4%	272.4	9.4
Pettis	18.4%	$38,026	82.2%	8.4%	30.3%	23.1%	11.5%	27.8%	387.3	13.0
Phelps	18.1%	$39,880	86.2%	6.8%	33.5%	24.1%	12.3%	15.3%	417.2	13.5
Pulaski	13.3%	$49,600	90.0%	8.0%	28.3%	16.6%	16.9%	18.7%	210.2	9.3

Key Indicators by Central Region Counties–Part Two (@considered unstable: numerator less than 20)

County	Life Expectancy at birth (2000-2008)	Overall (all-causes) Mortality per 100,000 (2000-2011; age-adjusted)	Infant Mortality Rate (infant deaths per 1,000 live births) (2001-2011)	Gonorrhea per 100,000 (2011)	Chlamydia per 100,000 (2011)	HIV Prevalence per 100,000 (2011)	Suicide Deaths per 100,000 (2011; age-adjusted)	Depression, age ≥ 18 (2011)	Student Depression, grades 6-12 (2010)	Drug Arrests per 100,000 population (2011)
Audrain	77.5	863.9	5.9	90.1	474.0	47.0@	14.8	22.8%	28.2%	309.0
Boone	78.7	743.6	5.9	183.8	600.7	135.3	11.6	23.9%	23.4%	711.8
Callaway	76.5	855.2	8.6	40.6@	311.3	45.1	17.4	19.5%	18.9%	517.8
Camden	77.5	782.0	5.7	6.8@	147.7	20.5@	15.8	24.4%	18.4%	533.4
Cole	77.9	797.5	6.9	115.8	450.1	67.1	12.2	12.6%	28.9%	485.3
Cooper	77.6	838.2	5.9@	68.2@	278.4	45.5@	17.5	17.8%	15.9%	928.5
Crawford	75.9	937.2	5.0@	28.3@	247.0	32.4@	18.7	21.8%	8.7%	883.1
Dent	75.3	935.4	7.1@	6.4@	166.1	6.4@	14.9	37.6%	28.5%	312.6
Gasconade	76.8	877.0	8.2@	13.1@	124.8@	32.8@	13.6	17.4%	22.8%	270.3
Howard	76.9	813.8	7.1@	39.4@	266.2	49.3@	9.6 @	9.9%	19.0%	362.6
Laclede	75.9	920.8	9.8	36.5@	253.0	56.2	14.2	23.2%	3.6%	370.4
Maries	76.5	873.3	0.9@	10.9@	98.1@	21.8@	13.8@	24.3%	N/A	1559.3
Miller	75.7	905.9	6.3	20.2@	214.2	40.4@	10.5	20.0%	19.2%	734.8
Moniteau	77.6	826.3	4.8@	6.4@	141.0	19.2@	9.7@	18.1%	15.4%	324.9
Montgomery	75.8	917.9	7.6@	16.3@	147.1@	49.0@	14.8@	20.7%	17.1%	293.4
Morgan	75.7	941.4	9.6	19.5@	145.9	34.0@	13.7	21.7%	19.9%	536.5
Osage	78.5	767.6	6.2@	7.2@	86.5@	14.4@	17.6	12.1%	19.6%	150.9
Pettis	77.0	846.9	6.8	80.6	421.8	47.4	10.9	21.9%	19.4%	630.7
Phelps	76.4	903.0	6.3	37.6@	356.5	33.2@	12.9	20.8%	17.0%	630.8
Pulaski	75.7	950.0	7.5	103.3	738.4	55.5	14.9	13.9%	23.7%	575.5

Kansas City Metro Region



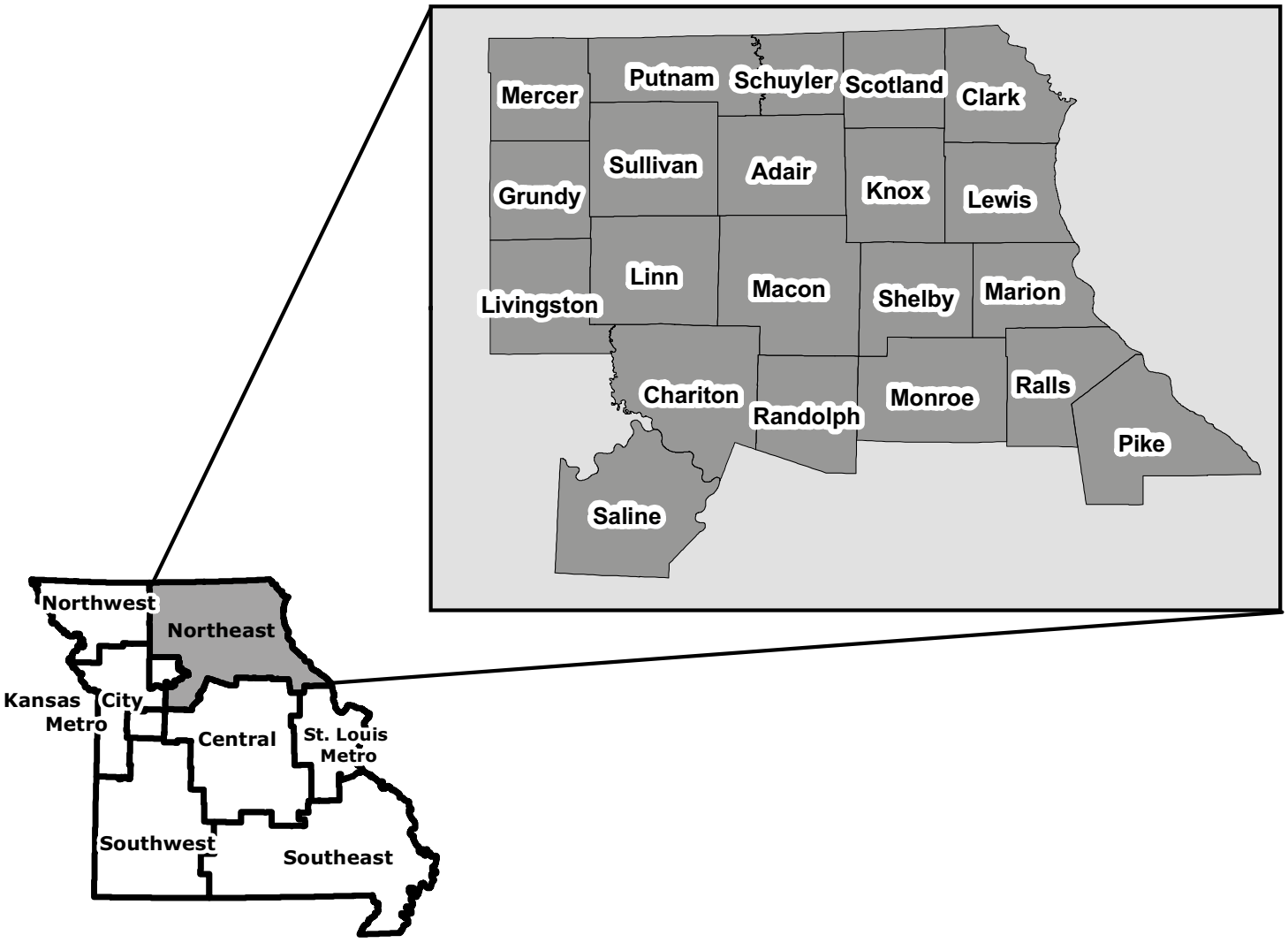
Key Indicators by Kansas City Metro Region Counties–Part One (@considered unstable: numerator less than 20)

County	Individuals in Poverty, all ages (2011)	Median Household Income (2011)	High School Graduates, age ≥ 25 (2007-2011)	Unemployment (Jan. 2012; not seasonally adjusted)	Obesity, age ≥ 18 (2011)	Smoking, age ≥ 18 (2011)	Student Binge Drinking, grades 6-12 (2010)	Uninsured, age ≥ 18 (2011)	ER Visits per 1,000, all ages (2010; age-adjusted)	Preventable Hospitalizations per 1,000, age < 65 (2010; age-adjusted)
Bates	16.8%	$40,376	82.8%	10.7%	29.8%	18.6%	12.7%	18.1%	497.9	21.2
Caldwell	14.0%	$44,206	86.2%	8.5%	27.5%	24.7%	11.5%	15.0%	346.4	15.0
Cass	10.3%	$54,969	91.9%	7.5%	33.2%	21.5%	11.5%	13.6%	332.2	10.1
Clay	8.7%	$59,039	91.9%	6.5%	32.5%	19.0%	9.5%	15.9%	336.2	14.1
Clinton	12.1%	$49,202	89.6%	9.2%	29.0%	19.4%	10.6%	15.1%	339.2	15.7
Jackson	18.7%	$44,508	87.3%	8.1%	27.6%	25.3%	7.8%	24.6%	454.6	15.5
Lafayette	12.6%	$47,604	87.4%	8.3%	38.5%	19.2%	10.6%	18.4%	435.3	16.2
Platte	7.3%	$63,676	94.1%	5.8%	26.0%	23.9%	10.3%	12.4%	233.9	8.5
Ray	12.1%	$52,222	86.6%	8.7%	38.2%	25.9%	11.0%	19.3%	444.1	17.4

Key Indicators by Kansas City Metro Region Counties–Part Two (@considered unstable: numerator less than 20)

County	Life Expectancy at birth (2000-2008)	Overall (all-causes) Mortality per 100,000 (2000-2011; age-adjusted)	Infant Mortality Rate (infant deaths per 1,000 live births) (2001-2011)	Gonorrhea per 100,000 (2011)	Chlamydia per 100,000 (2011)	HIV Prevalence per 100,000 (2011)	Suicide Deaths per 100,000 (2011; age-adjusted)	Depression, age ≥ 18 (2011)	Student Depression, grades 6-12 (2010)	Drug Arrests per 100,000 population (2011)
Bates	76.6	886.8	4.7@	23.5@	222.9	64.5@	12.0	19.0%	22.4%	981.9
Caldwell	76.6	861.6	9.6@	31.8@	159.2@	53.1@	17.1@	21.4%	8.3%	397.2
Cass	77.6	819.8	5.6	44.2	297.6	54.3	14.8	23.3%	19.1%	360.8
Clay	78.2	796.2	5.5	66.7	338.8	112.2	14.0	20.2%	20.2%	349.5
Clinton	76.5	942.3	6.8@	14.5@	255.5	33.7@	16.5	12.8%	23.0%	760.0
Jackson	76.5	879.2	7.9	298.4	841.9	427.6	14.1	20.3%	19.9%	295.8
Lafayette	76.4	864.9	7.3	33.0@	254.6	59.9	9.9	25.4%	20.5%	834.1
Platte	79.1	702.0	5.1	56.0	263.1	124.3	12.1	18.1%	16.9%	315.7
Ray	76.2	930.2	6.7	21.3@	242.6	34.1@	19.1	17.2%	21.3%	232.5

Northeast Region



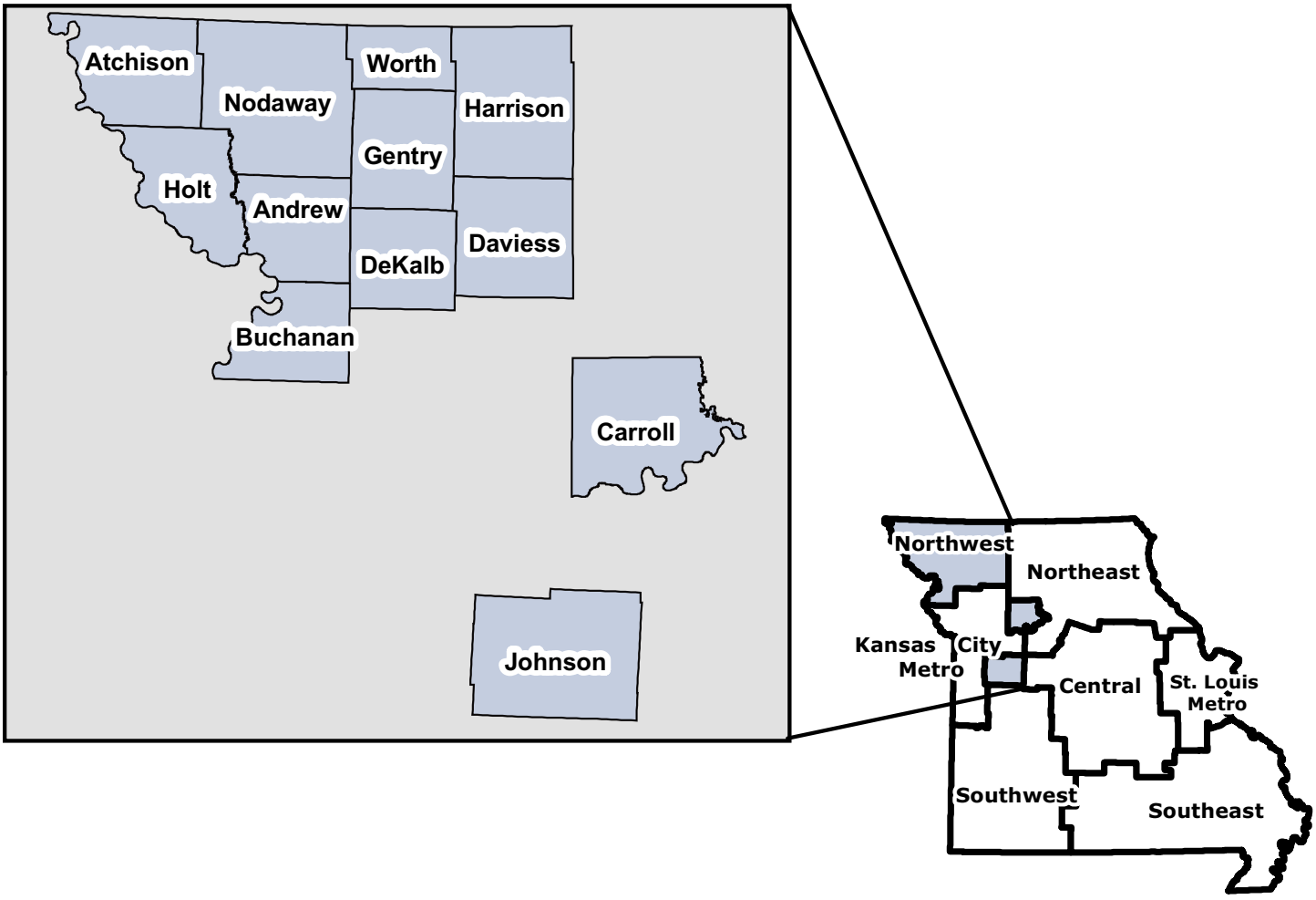
Key Indicators by Northeast Region Counties–Part One (@considered unstable: numerator less than 20)

County	Individuals in Poverty, all ages (2011)	Median Household Income (2011)	High School Graduates, age ≥ 25 (2007-2011)	Unemployment (Jan. 2012; not seasonally adjusted)	Obesity, age ≥ 18 (2011)	Smoking, age ≥ 18 (2011)	Student Binge Drinking, grades 6-12 (2010)	Uninsured, age ≥ 18 (2011)	ER Visits per 1,000, all ages (2010; age-adjusted)	Preventable Hospitalizations per 1,000, age < 65 (2010; age-adjusted)
Adair	25.1%	$33,639	87.3%	5.9%	31.0%	21.9%	14.2%	15.2%	289.2	16.3
Chariton	14.4%	$41,409	84.0%	7.6%	37.3%	24.2%	16.3%	19.6%	285.6	11.5
Clark	15.4%	$38,597	85.8%	8.3%	33.6%	24.6%	18.6%	16.7%	81.9	14.8
Grundy	19.2%	$35,002	85.4%	7.2%	29.9%	33.1%	14.6%	21.8%	413.1	15.8
Knox	21.8%	$33,381	87.2%	5.2%	32.7%	15.6%	N/A	38.2%	218.0	10.3
Lewis	16.7%	$40,795	85.4%	6.1%	34.5%	20.8%	6.0%	19.3%	67.1	5.4
Linn	16.8%	$35,697	89.1%	10.9%	39.1%	25.7%	15.7%	25.4%	451.8	16.2
Livingston	15.6%	$37,956	86.7%	7.9%	34.7%	20.5%	16.0%	20.3%	441.1	12.0
Macon	17.3%	$36,969	84.4%	7.6%	30.7%	23.6%	14.6%	24.8%	328.1	13.1
Marion	15.6%	$36,120	83.3%	6.7%	40.5%	25.7%	8.2%	21.6%	343.5	14.3
Mercer	16.0%	$35,483	89.2%	5.4%	39.0%	26.8%	9.0%	16.7%	228.1	14.4
Monroe	15.6%	$40,176	85.4%	10.0%	31.8%	22.2%	13.2%	14.9%	264.0	8.9
Pike	20.5%	$38,595	78.7%	7.8%	33.5%	22.4%	17.5%	25.6%	389.3	13.1
Putnam	18.8%	$34,146	85.0%	5.9%	33.2%	24.5%	14.3%	32.8%	316.4	19.4
Ralls	12.0%	$46,640	87.2%	8.2%	38.5%	16.0%	N/A	13.7%	177.4	7.5
Randolph	18.8%	$36,590	82.6%	8.5%	30.8%	25.7%	9.7%	17.9%	476.0	17.8
Saline	18.2%	$38,379	80.1%	7.1%	40.1%	33.7%	6.8%	13.8%	491.2	17.9
Schuyler	20.5%	$33,322	86.5%	9.2%	30.4%	20.5%	N/A	22.3%	253.7	16.6
Scotland	17.1%	$36,804	78.2%	5.7%	23.3%	8.4%	12.9%	47.8%	367.5	16.7
Shelby	18.6%	$35,321	89.0%	7.2%	43.0%	13.0%	N/A	20.3%	239.7	7.9
Sullivan	16.4%	$36,039	81.3%	6.1%	35.6%	28.2%	11.9%	13.1%	407.2	24.2

Key Indicators by Northeast Region Counties–Part Two (@considered unstable: numerator less than 20)

County	Life Expectancy at birth (2000-2008)	Overall (all-cause) Mortality per 100,000 (2000-2011; age-adjusted)	Infant Mortality Rate (infant deaths per 1,000 live births) (2001-2011)	Gonorrhea per 100,000 (2011)	Chlamydia per 100,000 (2011)	HIV Prevalence per 100,000 (2011)	Suicide Deaths per 100,000 (2011; age-adjusted)	Depression, age ≥ 18 (2011)	Student Depression, grades 6-12 (2010)	Drug Arrests per 100,000 population (2011)
Adair	77.3	847.2	7.0	35.1@	257.7	46.9@	11.9	22.9%	29.1%	551.8
Chariton	77.9	788.2	9.5@	0.0@	114.9@	12.8@	3.2@	19.9%	26.9%	25.9
Clark	77.9	839.2	5.4@	0.0@	42.0@	28.0@	15.1@	21.3%	17.5%	968.8
Grundy	77.9	849.3	5.6@	19.5@	146.2@	29.2@	11.1@	25.9%	21.3%	440.0
Knox	77.1	868.5	1.9@	24.2@	48.4@	0.0@	8.7@	21.2%	N/A	0.0@
Lewis	78.6	779.2	5.7@	9.8@	264.4	39.2@	5.1@	15.8%	15.1%	462.8
Linn	76.9	884.1	5.7@	15.7@	156.7	78.4@	13.8	16.3%	20.2%	294.4
Livingston	77.2	842.5	7.6@	39.5@	394.9	13.2@	11.8@	18.1%	20.8%	563.9
Macon	76.3	884.5	4.8@	19.3@	224.8	45.0@	16.7	18.5%	19.9%	487.5
Marion	76.5	904.8	8.1	62.5@	399.6	41.7@	13.5	20.3%	22.9%	800.9
Mercer	79.0	711.1	10.5@	0.0@	26.4@	0.0@	25.5@	18.2%	23.9%	105.2@
Monroe	76.9	808.0	3.5@	11.3@	203.6@	11.3@	11.2@	17.5%	19.1%	320.6
Pike	76.3	881.6	10.1	16.2@	243.0	32.4@	12.7	20.4%	18.6%	258.5
Putnam	76.3	869.9	11.0@	0.0@	140.6@	20.1@	20.9@	24.6%	31.9%	542.4
Ralls	78.1	741.1	12.9@	9.8@	255.7	19.7@	17.2@	23.1%	N/A	145.9@
Randolph	75.9	922.6	6.9	98.4	350.2	31.5@	16.3	24.9%	28.8%	820.6
Saline	76.3	885.3	10.0	21.4@	445.0	47.1@	7.5	20.2%	17.0%	549.8
Schuyler	77.1	818.9	11.3@	22.6@	112.8@	22.6@	22.4@	18.7%	N/A	45.7@
Scotland	77.9	827.2	9.3@	0.0@	41.3@	20.6@	19.9@	13.1%	31.4%	290.0@
Shelby	77.9	837.0	6.5@	15.7@	78.5@	31.4@	7.8@	17.8%	12.5%	398.1
Sullivan	76.1	873.6	7.5@	0.0@	148.9@	59.6@	23.8@	25.6%	10.8%	225.3@

Northwest Region



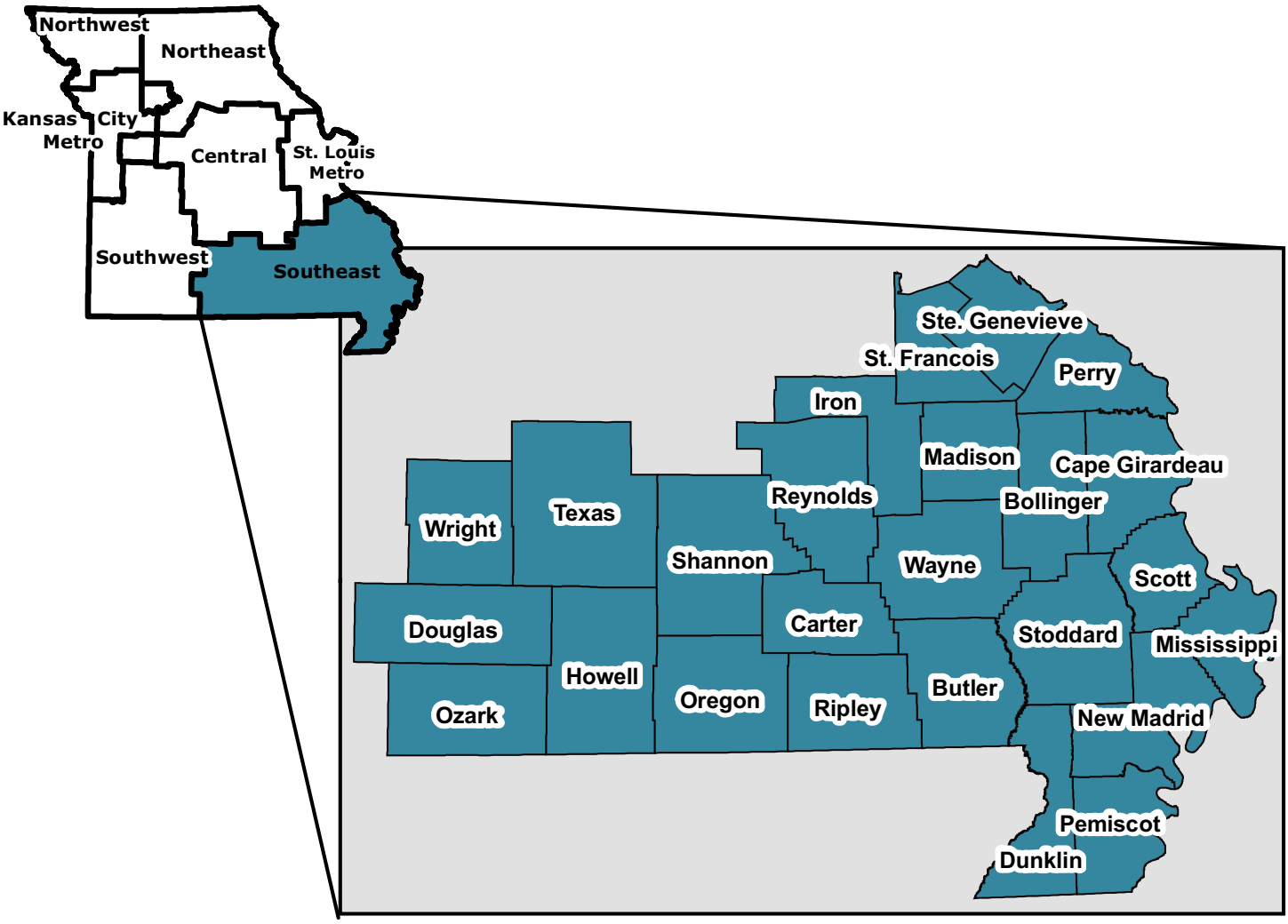
Key Indicators by Northwest Region Counties–Part One (@considered unstable: numerator less than 20)

County	Individuals in Poverty, all ages (2011)	Median Household Income (2011)	High School Graduates, age ≥ 25 (2007-2011)	Unemployment (Jan. 2012; not seasonally adjusted)	Obesity, age ≥ 18 (2011)	Smoking, age ≥ 18 (2011)	Student Binge Drinking, grades 6-12 (2010)	Uninsured, age ≥ 18 (2011)	ER Visits per 1,000, all ages (2010; age-adjusted)	Preventable Hospitalizations per 1,000, age < 65 (2010; age-adjusted)
Andrew	9.4%	$54,994	89.7%	5.5%	37.2%	25.3%	9.3%	14.2%	201.9	9.0
Atchison	12.5%	$43,322	88.2%	6.7%	32.8%	20.3%	0.0%	19.8%	401.9	11.4
Buchanan	17.8%	$42,031	86.2%	6.1%	31.4%	27.5%	10.5%	21.2%	406.6	19.4
Carroll	13.1%	$40,035	83.5%	9.1%	41.2%	15.1%	18.0%	14.6%	403.3	24.1
Daviess	18.4%	$38,820	83.9%	8.2%	35.8%	20.4%	9.0%	19.1%	285.2	11.2
DeKalb	16.2%	$41,264	83.6%	6.8%	27.9%	20.5%	6.6%	32.2%	227.8	10.3
Gentry	17.5%	$37,314	83.7%	5.6%	33.8%	21.9%	8.6%	17.2%	388.0	15.7
Harrison	17.1%	$35,626	83.3%	8.2%	35.7%	24.2%	15.8%	25.8%	393.6	15.9
Holt	13.0%	$41,054	89.6%	6.3%	36.9%	26.3%	15.4%	24.3%	240.9	10.2
Johnson	16.4%	$48,483	91.1%	7.3%	29.2%	21.8%	9.7%	16.2%	292.0	12.2
Nodaway	25.0%	$38,478	89.8%	5.6%	20.5%	13.5%	11.3%	17.5%	236.5	8.2
Worth	15.9%	$38,105	86.2%	5.8%	46.8%	24.3%	N/A	25.0%	232.7	10.8

Key Indicators by Northwest Region Counties–Part Two (@considered unstable: numerator less than 20)

County	Life Expectancy at birth (2000-2008)	Overall (all-cause) Mortality per 100,000 (2001-2011; age-adjusted)	Infant Mortality Rate (infant deaths per 1,000 live births) (2001-2011)	Gonorrhea per 100,000 (2011)	Chlamydia per 100,000 (2011)	HIV Prevalence per 100,000 (2011)	Suicide Deaths per 100,000 (2011; age-adjusted)	Depression, age ≥ 18 (2011)	Student Depression, grades 6-12 (2010)	Drug Arrests per 100,000 population (2011)
Andrew	77.6	803.8	6.9@	23.1@	208.2	23.1@	9.3@	13.3%	20.9%	395.4
Atchison	78.8	822.6	1.5@	0.0@	35.2@	17.6@	12.6@	17.8%	10.7%	1292.9
Buchanan	76.5	910.1	7.9	118.8	512.3	79.6	14.8	26.1%	24.7%	690.3
Carroll	76.7	894.7	8.1@	53.8@	172.1@	10.8@	15.7@	15.2%	23.5%	226.8
Daviess	77.3	842.9	8.9@	23.7@	213.4@	23.7@	14.2@	19.4%	24.0%	637.6
DeKalb	77.5	808.7	4.1@	31.0@	162.9	23.3@	11.6@	17.7%	22.9%	391.6
Gentry	77.5	788.1	2.2@	0.0@	89.0@	14.8@	19.3@	22.4%	16.2%	88.4@
Harrison	77.5	813.5	7.3@	0.0@	379.6	11.2@	18.9@	24.7%	6.8%	800.8
Holt	78.3	754.0	8.0@	0.0@	61.1@	0.0@	9.5 @	22.0%	18.5%	519.3
Johnson	77.9	857.4	6.1	38.0	635.0	60.8	13.1	16.6%	16.7%	344.3
Nodaway	79.8	743.1	5.4@	30.0@	350.9	30.0@	12.6	16.3%	17.0%	553.9
Worth	77.9	779.5	13.3@	0.0@	230.3@	0.0@	19.7@	14.0%	N/A	0.0@

Southeast Region



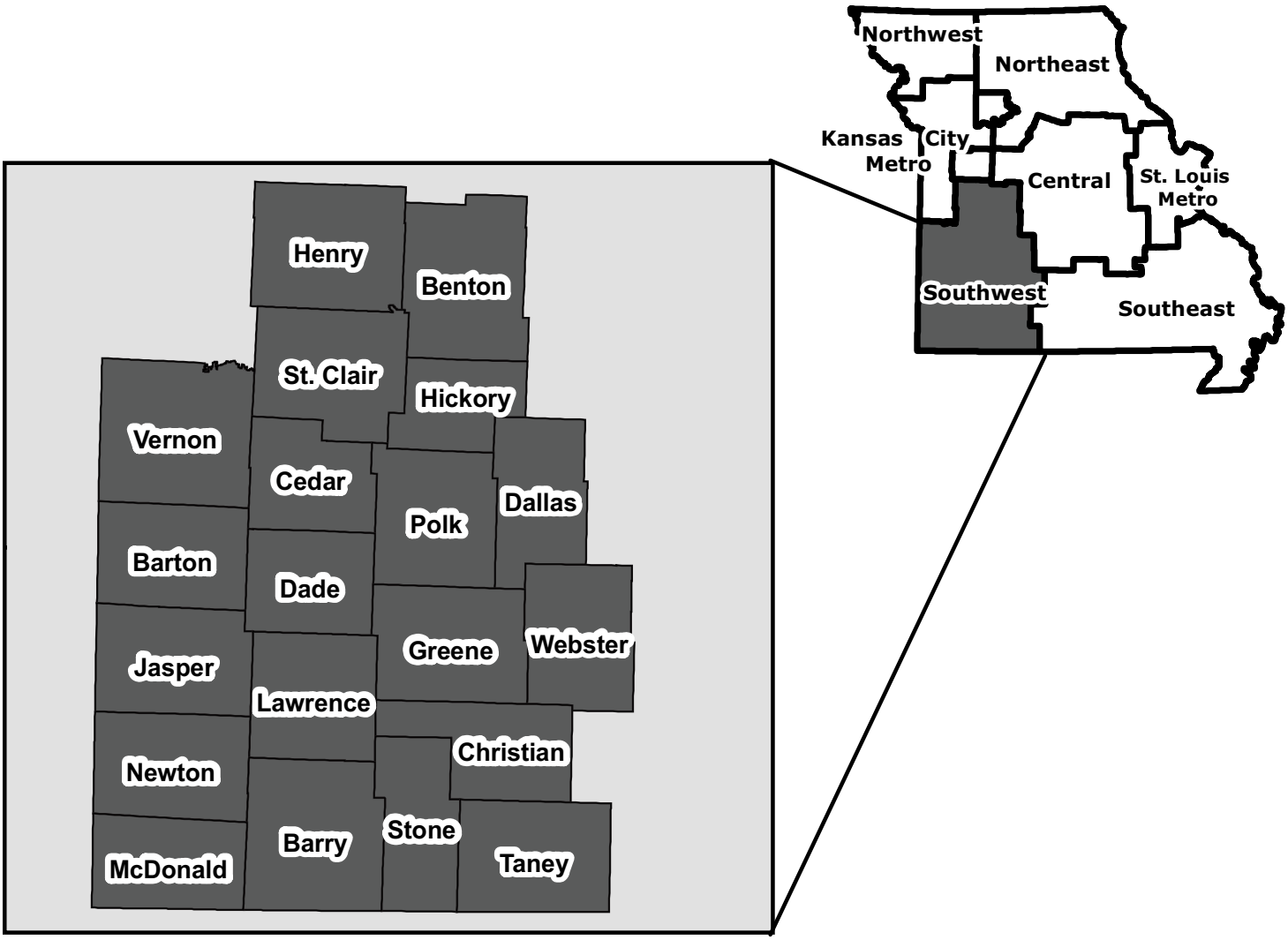
Key Indicators by Southeast Region Counties–Part One (@considered unstable: numerator less than 20)

County	Individuals in Poverty, all ages (2011)	Median Household Income (2011)	High School Graduates, age ≥ 25 (2007-2011)	Unemployment (Jan. 2012; not seasonally adjusted)	Obesity, age ≥ 18 (2011)	Smoking, age ≥ 18 (2011)	Student Binge Drinking, grades 6-12 (2010)	Uninsured, age ≥ 18 (2011)	ER Visits per 1,000, all ages (2010; age-adjusted)	Preventable Hospitalizations per 1,000, age < 65 (2010; age-adjusted)
Bollinger	17.3%	$38,565	77.4%	7.6%	38.6%	27.1%	15.8%	19.7%	293.2	10.4
Butler	22.1%	$33,480	76.6%	8.3%	34.7%	31.6%	13.1%	25.5%	481.5	23.9
Cape Girardeau	17.1%	$41,755	86.1%	6.1%	26.3%	19.9%	11.9%	14.8%	364.2	11.1
Carter	24.7%	$27,878	74.5%	9.3%	48.7%	27.1%	17.1%	26.7%	366.1	22.5
Douglas	23.7%	$30,071	80.0%	8.1%	32.7%	22.5%	13.5%	36.2%	197.9	7.3
Dunklin	28.1%	$32,018	69.0%	10.4%	35.8%	24.4%	10.8%	21.6%	584.6	35.0
Howell	22.9%	$31,645	83.4%	7.7%	26.2%	26.4%	10.1%	20.4%	435.0	14.2
Iron	23.9%	$32,173	76.4%	10.0%	32.5%	34.3%	12.8%	27.6%	442.2	17.0
Madison	21.6%	$32,734	76.8%	8.1%	29.7%	28.1%	8.3%	19.9%	669.7	16.0
Mississippi	30.8%	$29,533	66.6%	9.3%	35.1%	32.3%	9.6%	20.0%	302.8	22.2
New Madrid	22.5%	$35,522	74.6%	8.7%	50.4%	22.8%	14.3%	19.4%	308.9	20.3
Oregon	27.2%	$27,616	77.2%	7.4%	33.0%	22.1%	8.1%	26.3%	280.8	12.6
Ozark	24.0%	$30,284	78.3%	9.4%	34.1%	31.8%	5.3%	24.1%	168.7	11.6
Pemiscot	30.1%	$26,647	70.8%	9.2%	37.6%	45.5%	12.4%	19.0%	438.7	51.0
Perry	13.4%	$43,899	81.2%	5.0%	27.1%	25.9%	15.7%	19.0%	469.3	9.3
Reynolds	26.9%	$29,475	74.1%	13.3%	36.1%	32.5%	1.8%	22.3%	464.8	20.2
Ripley	25.9%	$27,794	72.1%	9.3%	41.4%	36.4%	7.5%	20.8%	541.4	28.0
Scott	19.2%	$37,793	77.0%	7.7%	27.5%	29.5%	6.0%	19.3%	410.7	19.2
Shannon	28.8%	$25,684	76.4%	13.3%	27.7%	31.6%	18.4%	32.3%	463.0	11.3
St. Francois	20.6%	$35,252	80.4%	9.5%	35.5%	24.8%	14.4%	15.9%	614.8	18.9
Ste. Genevieve	12.1%	$48,217	81.1%	7.6%	27.0%	24.6%	N/A	16.7%	350.5	10.5
Stoddard	16.6%	$35,916	76.1%	8.7%	28.7%	25.5%	14.5%	30.6%	426.4	18.0

Key Indicators by Southeast Region Counties–Part Two (@considered unstable: numerator less than 20)

County	Life Expectancy at birth (2000-2008)	Overall (all-cause) Mortality per 100,000 (2001-2011; age-adjusted)	Infant Mortality Rate (infant deaths per 1,000 live births) (2001-2011)	Gonorrhea per 100,000 (2011)	Chlamydia per 100,000 (2011)	HIV Prevalence per 100,000 (2011)	Suicide Deaths per 100,000 (2011; age-adjusted)	Depression, age ≥ 18 (2011)	Student Depression, grades 6-12 (2010)	Drug Arrests per 100,000 population (2011)
Bollinger	76.0	908.9	8.1 @	40.4@	129.4@	8.1@	13.9 @	23.2%	11.0%	388.5
Butler	73.8	1037.6	10.5	100.5	376.2	58.4	17.4	34.7%	21.6%	793.8
Cape Girardeau	78.0	823.0	6.3	81.9	317.1	68.7	11.1	19.9%	20.3%	445.0
Carter	72.7	1111.7	9.2@	16.0@	159.6@	16.0@	20.4 @	25.8%	18.9%	785.5
Douglas	76.7	842.1	6.1@	14.6@	124.2@	51.2@	16.7	22.5%	25.6%	413.3
Dunklin	72.6	1130.2	9.9	62.6	331.7	72.0	18.9	24.3%	18.5%	919.5
Howell	75.2	967.7	6.0	9.9@	230.2	49.5	18.1	27.2%	17.1%	779.5
Iron	72.0	1148.3	8.6@	9.4@	122.3@	56.4@	14.2 @	24.3%	23.0%	450.5
Madison	75.0	994.1	6.7@	8.2@	65.4@	49.1@	15.5	22.9%	18.0%	155.8 @
Mississippi	73.7	1089.2	5.7@	34.8@	348.2	208.9	11.0 @	31.8%	18.4%	650.1
New Madrid	73.6	1058.8	10.0	58.0@	279.6	73.9@	11.9	28.3%	20.1%	686.8
Oregon	75.8	900.3	4.6@	9.2@	193.0	46.0@	15.3 @	23.5%	20.2%	281.4
Ozark	74.9	923.0	5.5@	0.0@	20.6@	102.8@	21.4	20.8%	20.3%	583.6
Pemiscot	73.1	1077.1	11.6	164.0	661.3	120.2	15.7	27.7%	19.1%	2008.4
Perry	78.0	784.6	4.5@	15.8@	173.9	26.4@	15.0	16.2%	18.5%	409.6
Reynolds	73.6	978.2	16.6@	44.8@	119.5@	14.9@	19.0 @	18.9%	22.1%	986.6
Ripley	73.3	1072.1	12.6	14.2@	170.2	35.5@	11.8 @	30.4%	12.2%	572.7
Scott	75.8	926.2	8.8	142.9	377.6	66.3	12.9	16.3%	19.6%	799.8
Shannon	75.8	917.8	9.1@	0.0@	71.1@	47.4@	6.8 @	19.9%	16.7%	1067.4
St. Francois	74.4	1012.3	7.1	41.3	263.2	71.9	15.3	24.1%	18.1%	645.0
Ste. Genevieve	78.4	789.4	2.4@	0.0@	110.2	49.6@	13.3	14.6%	N/A	546.2

Southwest Region



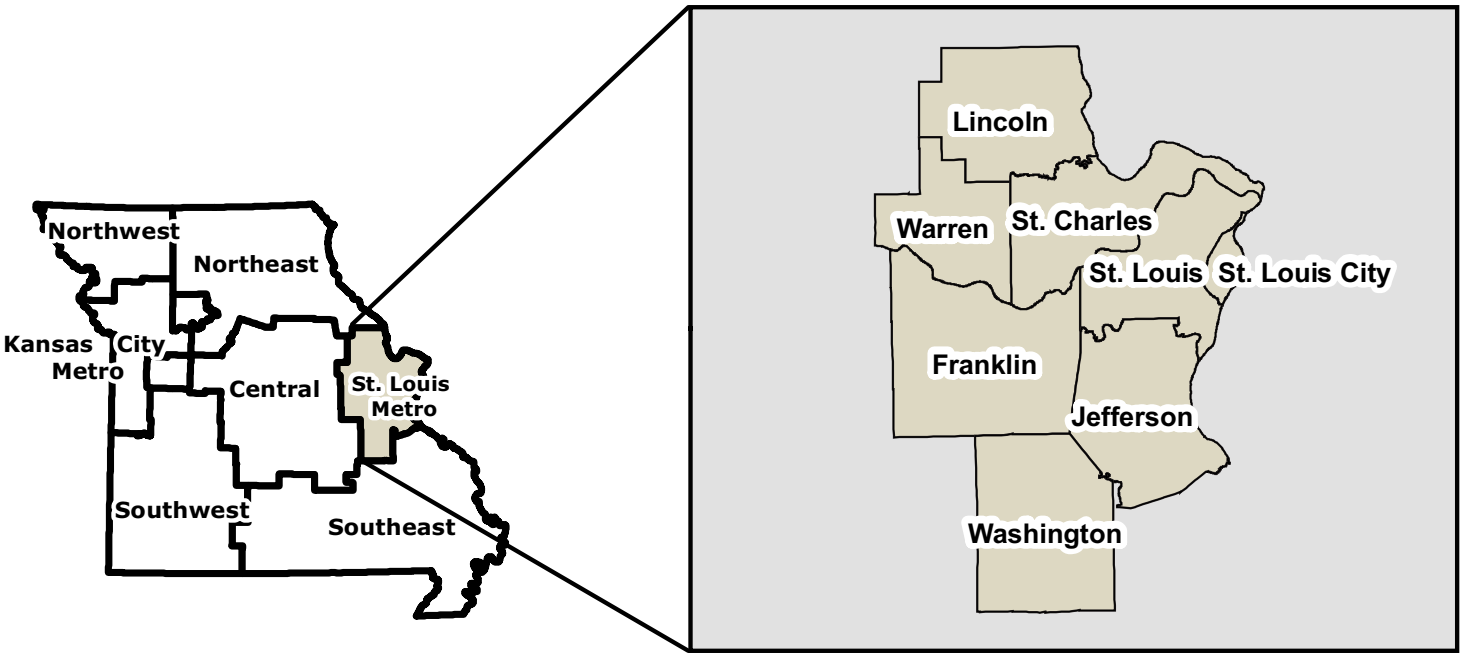
Key Indicators by Southwest Region Counties–Part One (@considered unstable: numerator less than 20)

County	Individuals in Poverty, all ages (2011)	Median Household Income (2011)	High School Graduates, age ≥ 25 (2007-2011)	Unemployment (Jan. 2012; not seasonally adjusted)	Obesity, age ≥ 18 (2011)	Smoking, age ≥ 18 (2011)	Student Binge Drinking, grades 6-12 (2010)	Uninsured, age ≥ 18 (2011)	ER Visits per 1,000, all ages (2010; age-adjusted)	Preventable Hospitalizations per 1,000, age < 65 (2010; age-adjusted)
Barry	18.0%	$36,546	80.8%	7.0%	31.4%	26.0%	11.9%	22.6%	558.4	10.7
Barton	18.6%	$36,076	85.4%	8.9%	32.0%	15.0%	6.5%	23.5%	448.7	22.2
Benton	17.3%	$36,255	81.0%	9.7%	31.6%	23.3%	12.6%	22.7%	331.2	14.1
Cedar	26.6%	$30,536	84.3%	6.9%	34.4%	22.5%	13.4%	18.5%	530.1	14.7
Christian	11.9%	$50,426	91.9%	7.1%	27.2%	19.6%	6.3%	17.0%	259.1	7.7
Dade	19.6%	$33,754	84.0%	7.1%	32.3%	39.0%	10.1%	17.8%	300.7	10.4
Dallas	21.5%	$33,535	77.3%	10.0%	39.1%	27.0%	7.0%	26.4%	353.2	9.6
Greene	17.5%	$40,423	89.3%	6.2%	25.5%	21.7%	8.1%	23.3%	495.4	11.8
Henry	18.6%	$38,410	85.2%	8.6%	40.0%	25.2%	5.3%	16.7%	412.0	18.0
Hickory	22.7%	$30,049	82.1%	12.7%	30.8%	30.6%	7.0%	21.1%	290.6	8.8
Jasper	16.8%	$39,359	82.3%	6.0%	35.6%	23.5%	7.9%	23.4%	789.6	16.7
Lawrence	17.1%	$41,128	80.4%	6.7%	35.2%	24.0%	4.0%	19.4%	487.9	10.7
McDonald	22.7%	$34,497	76.5%	6.1%	28.2%	28.9%	N/A	30.7%	315.4	13.9
Newton	16.1%	$41,722	85.0%	6.6%	34.9%	15.6%	4.6%	26.7%	511.4	12.8
Polk	20.2%	$38,112	82.2%	7.6%	33.6%	27.1%	11.8%	21.2%	383.5	11.9
St. Clair	24.1%	$30,098	83.6%	8.9%	26.1%	30.4%	13.4%	22.3%	357.2	17.8
Stone	19.8%	$37,302	83.8%	17.6%	28.7%	24.7%	11.0%	19.6%	335.6	10.2
Taney	19.7%	$36,176	85.7%	19.2%	28.8%	29.8%	5.1%	14.0%	510.2	15.2
Vernon	20.5%	$37,342	84.6%	6.0%	33.5%	24.1%	19.8%	25.8%	425.4	14.8
Webster	19.7%	$39,261	82.0%	7.2%	27.0%	22.3%	7.5%	23.4%	318.6	9.6

Key Indicators by Southwest Region Counties–Part Two (@considered unstable: numerator less than 20)

County	Life Expectancy at birth (2000-2008)	Overall (all-causes) Mortality per 100,000 (2000-2011; age-adjusted)	Infant Mortality Rate (infant deaths per 1,000 live births) (2001-2011)	Gonorrhea per 100,000 (2011)	Chlamydia per 100,000 (2011)	HIV Prevalence per 100,000 (2011)	Suicide Deaths per 100,000 (2011; age-adjusted)	Depression, age ≥ 18 (2011)	Student Depression, grades 6-12 (2010)	Drug Arrests per 100,000 population (2011)
Barry	75.6	922.8	6.4	28.1@	241.6	36.5@	15.2	24.0%	24.8%	498.8
Barton	77.6	806.3	5.7@	0.0@	129.0@	8.1@	15.8	19.2%	27.7%	267.7
Benton	75.9	910.7	7.6@	5.2@	141.7	57.7@	17.2	14.5%	24.3%	497.0
Cedar	75.9	912.6	9.7@	42.9@	228.9	42.9@	18.7	23.3%	21.0%	136.2@
Christian	78.0	800.1	5.0	37.5	186.0	53.0	12.6	20.4%	16.1%	397.1
Dade	75.3	970.2	4.5@	63.4@	152.2@	63.4@	16.0@	16.5%	17.1%	269.0
Dallas	75.6	876.2	8.3@	17.9@	137.1	23.8@	18.9	18.2%	20.9%	561.2
Greene	77.3	827.7	6.7	95.9	454.6	134.5	14.1	23.5%	19.0%	478.0
Henry	75.7	943.2	8.2	26.9@	255.9	53.9@	18.5	23.8%	23.7%	805.6
Hickory	76.8	847.6	7.1@	10.4@	135.0@	41.5@	20.0	19.3%	7.0%	197.3@
Jasper	76.1	932.8	5.1	52.0	531.5	99.7	14.6	19.8%	17.3%	353.8
Lawrence	75.9	894.5	8.9	28.5@	209.7	38.8@	12.7	19.8%	19.2%	390.6
McDonald	74.8	962.5	8.1	8.7@	246.9	60.7@	14.1	21.4%	N/A	335.1
Newton	76.8	867.5	7.7	15.5@	259.8	37.9	13.0	23.1%	20.0%	301.3
Polk	76.2	911.8	4.7@	45.0@	260.1	22.5@	16.4	24.7%	20.0%	487.6
St. Clair	76.5	882.8	3.9@	20.4	204.0	30.6@	12.7@	27.1%	16.5	176.3@
Stone	77.8	763.1	7.8	15.5@	139.7	46.6@	14.1	15.1%	29.0%	452.5
Taney	77.0	806.7	6.4	13.5@	203.2	85.1	12.9	30.1%	9.9%	400.1
Vernon	75.4	928.3	8.8	4.7@	226.9	56.7@	17.5	18.8%	22.7%	267.1
Webster	77.1	862.0	7.1	27.6@	168.5	74.6	16.2	26.4%	21.0%	480.3

St. Louis Metro Region



Key Indicators by St. Louis Metro Region Counties–Part One (@considered unstable: numerator less than 20)

County	Individuals in Poverty, all ages (2011)	Median Household Income (2011)	High School Graduates, age ≥ 25 (2007-2011)	Unemployment (Jan. 2012; not seasonally adjusted)	Obesity, age ≥ 18 (2011)	Smoking, age ≥ 18 (2011)	Student Binge Drinking, grades 6-12 (2010)	Uninsured, age ≥ 18 (2011)	ER Visits per 1,000, all ages (2010; age-adjusted)	Preventable Hospitalizations per 1,000, age < 65 (2010; age-adjusted)
Franklin	10.0%	$47,663	84.9%	9.2%	30.7%	22.0%	10.1%	16.7%	404.0	14.3
Jefferson	11.2%	$51,008	86.7%	8.5%	35.1%	22.1%	11.8%	14.9%	255.6	13.5
Lincoln	13.2%	$50,523	84.0%	9.9%	32.6%	23.1%	14.2%	13.7%	451.8	13.7
St. Charles	6.0%	$67,074	92.8%	6.5%	25.9%	19.7%	7.8%	12.7%	243.9	10.1
St. Louis City	27.2%	$32,576	81.9%	9.7%	30.8%	26.3%	N/A	27.6%	446.5	23.4
St. Louis County	11.9%	$55,131	91.5%	7.0%	28.5%	18.9%	10.7%	16.8%	306.5	13.8
Warren	12.8%	$50,773	84.2%	9.0%	34.4%	24.8%	13.4%	18.9%	320.9	13.7
Washington	26.6%	$30,896	70.4%	12.0%	42.9%	36.4%	7.8%	25.8%	610.7	19.8

Key Indicators by St. Louis Metro Region Counties–Part Two (@considered unstable: numerator less than 20)

County	Life Expectancy at birth (2000-2008)	Overall (all-cause) Mortality per 100,000 (2000-2011; age-adjusted)	Infant Mortality Rate (infant deaths per 1,000 live births) (2001-2011)	Gonorrhea per 100,000 (2011)	Chlamydia per 100,000 (2011)	HIV Prevalence per 100,000 (2011)	Suicide Deaths per 100,000 (2011; age-adjusted)	Depression, age ≥ 18 (2011)	Student Depression, grades 6-12 (2010)	Drug Arrests per 100,000 population (2011)
Franklin	76.5	904.2	6.0	20.7	247.3	47.3	17.5	20.7%	19.7%	477.7
Jefferson	76.2	969.9	6.2	16.5	169.6	58.1	15.1	19.6%	21.0%	712.1
Lincoln	76.3	924.6	6.5	24.7@	182.6	28.5@	16.7	23.1%	20.0%	704.6
St. Charles	79.2	723.1	6.0	28.0	214.2	55.8	10.5	18.0%	14.5%	424.5
St. Louis City	73.5	1062.1	11.1	611.3	1453.8	983.7	13.1	20.5%	N/A	1310.1
St. Louis County	78.3	778.9	7.9	183.3	555.4	176.8	10.9	18.4%	20.6%	827.4
Warren	77.2	796.8	4.5@	24.6@	206.1	30.8@	15.9	20.1%	18.7%	744.3
Washington	72.9	1085.9	6.9	11.9@	154.8	79.4	10.0	32.1%	25.8%	398.8

Missouri Counties and St. Louis City Health Factors Rankings

Table A.1

Health Factors									
County	**Rank**	**County**	**Rank**	**County**	**Rank**	**County**	**Rank**	**County**	**Rank**
St. Charles	**1**	Clinton	25	Saline	49	Buchanan	73	Hickory	97
Boone	2	Gentry	26	Polk	50	Sullivan	74	Iron	98
Platte	3	Cooper	27	Dade	51	Stoddard	75	Oregon	99
Christian	4	Macon	28	Jasper	52	Cedar	76	Ozark	100
Nodaway	5	Marion	29	Callaway	53	Randolph	77	Miller	101
St. Louis	6	Lafayette	30	Ste. Genevieve	54	Clark	78	Butler	102
Clay	7	Scotland	31	Monroe	55	Daviess	79	Taney	103
Cole	8	Warren	32	Carroll	56	Stone	80	Linn	104
Osage	9	Franklin	33	Lewis	57	Jackson	81	New Madrid	105
Cape Girardeau	10	Mercer	34	Henry	58	Lincoln	82	Texas	106
Greene	11	Worth	35	Barry	59	Bates	83	Carter	107
Atchison	12	Lawrence	36	Maries	60	Wright	84	Ripley	108
Ralls	13	Knox	37	Jefferson	61	Vernon	85	Mississippi	109
Perry	14	Putnam	38	Caldwell	62	St. Clair	86	Reynolds	110
Chariton	15	Gasconade	39	Ray	63	Crawford	87	Washington	111
Andrew	16	DeKalb	40	Montgomery	64	Wayne	88	Shannon	112
Cass	17	Newton	41	Pettis	65	Morgan	89	Dunklin	113
Adair	18	Webster	42	Howell	66	Scott	90	Pemiscot	114
Holt	19	Audrain	43	Barton	67	St. Francois	91	**St. Louis City**	**115**
Shelby	20	Phelps	44	Harrison	68	Madison	92		
Moniteau	21	Camden	45	Benton	69	Laclede	93		
Johnson	22	Pulaski	46	Bollinger	70	McDonald	94		
Livingston	23	Grundy	47	Douglas	71	Pike	95		
Howard	24	Schuyler	48	Dent	72	Dallas	96		

Source: 2012 County Health Rankings: University of Wisconsin Public Health Institute

Missouri Counties and St. Louis City Health Outcomes Rankings

Table A.2

Health Outcomes									
County	**Rank**	**County**	**Rank**	**County**	**Rank**	**County**	**Rank**	**County**	**Rank**
St. Charles	**1**	Putnam	25	Lincoln	49	Carroll	73	McDonald	97
Andrew	2	Harrison	26	Grundy	50	Audrain	74	St. Francois	98
Nodaway	3	Bates	27	Linn	51	Polk	75	Madison	99
Platte	4	Clinton	28	Stone	52	Randolph	76	Iron	100
Christian	5	Ralls	29	Marion	53	Schuyler	77	Texas	101
Boone	6	Warren	30	Pettis	54	Jackson	78	Reynolds	102
Johnson	7	Scotland	31	Knox	55	Benton	79	Wayne	103
DeKalb	8	Dallas	32	Shelby	56	Callaway	80	Ozark	104
Maries	9	Chariton	33	Worth	57	Montgomery	81	St. Clair	105
Atchison	10	Pulaski	34	Hickory	58	Vernon	82	Washington	106
Lafayette	11	Barton	35	Gasconade	59	Barry	83	Mississippi	107
Howard	12	Saline	36	Franklin	60	Morgan	84	Dent	108
Clay	13	Cooper	37	Livingston	61	Wright	85	Butler	109
Moniteau	14	Daviess	38	Miller	62	Caldwell	86	St. Louis City	110
Mercer	15	Gentry	39	Laclede	63	Crawford	87	Carter	111
Cole	16	Adair	40	Newton	64	Clark	88	Ripley	112
Cass	17	Pike	41	Lawrence	65	Sullivan	89	New Madrid	113
Osage	18	Lewis	42	Bollinger	66	Ray	90	Pemiscot	114
Ste. Genevieve	19	Jasper	43	Cedar	67	Howell	91	**Dunklin**	**115**
St. Louis	20	Jefferson	44	Dade	68	Stoddard	92		
Monroe	21	Greene	45	Phelps	69	Oregon	93		
Perry	22	Camden	46	Buchanan	70	Scott	94		
Macon	23	Holt	47	Douglas	71	Shannon	95		
Cape Girardeau	24	Webster	48	Taney	72	Henry	96		

Source: 2012 County Health Rankings: University of Wisconsin Public Health Institute

Appendix B: Public Health System Assessment Findings

Figure B.1 displays each composite score from low to high, allowing easy identification of service domains where performance is relatively strong or weak. The color-coded bars make it easier to identify which of the Essential Services fall in the five categories of performance activity. The scores show that the weakest essential service area is assuring the competence of the workforce and the strongest is diagnosing and investigating issues and problems.

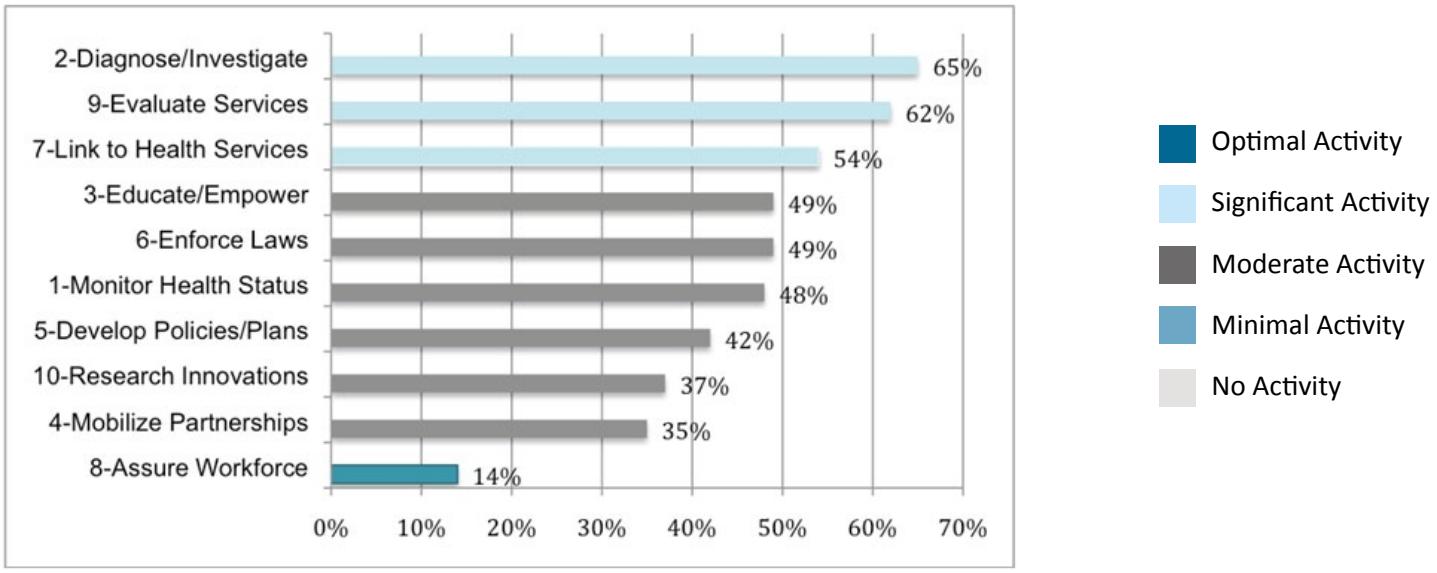


Figure B.1–Ranked EPHS Scores

Figure B.2 offers a summary of the average scores for all 10 essential service areas across the four model standard, showing performance management and quality improvement as the lowest score at 38 percent (moderate) and planning and implementation at 56 percent (significant).

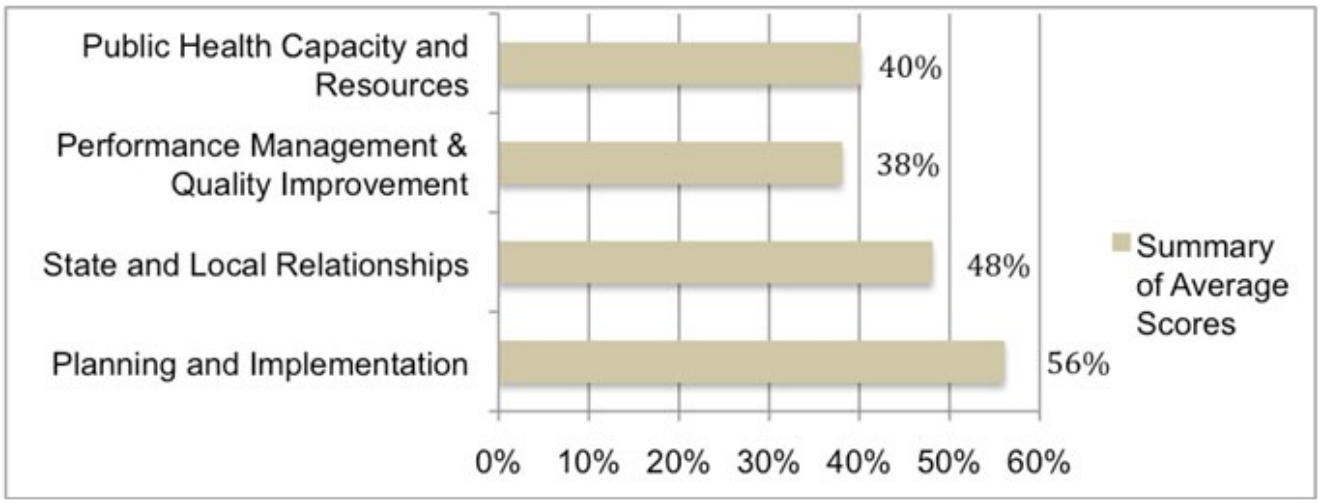


Figure B.2–Model Standard Average Scores for All EPHS

Figure B.3 displays the percentage of the State of Missouri's Essential Services scores that fall within the five activity categories. This chart provides the site with a high level snapshot of the information found in Figure B.1.

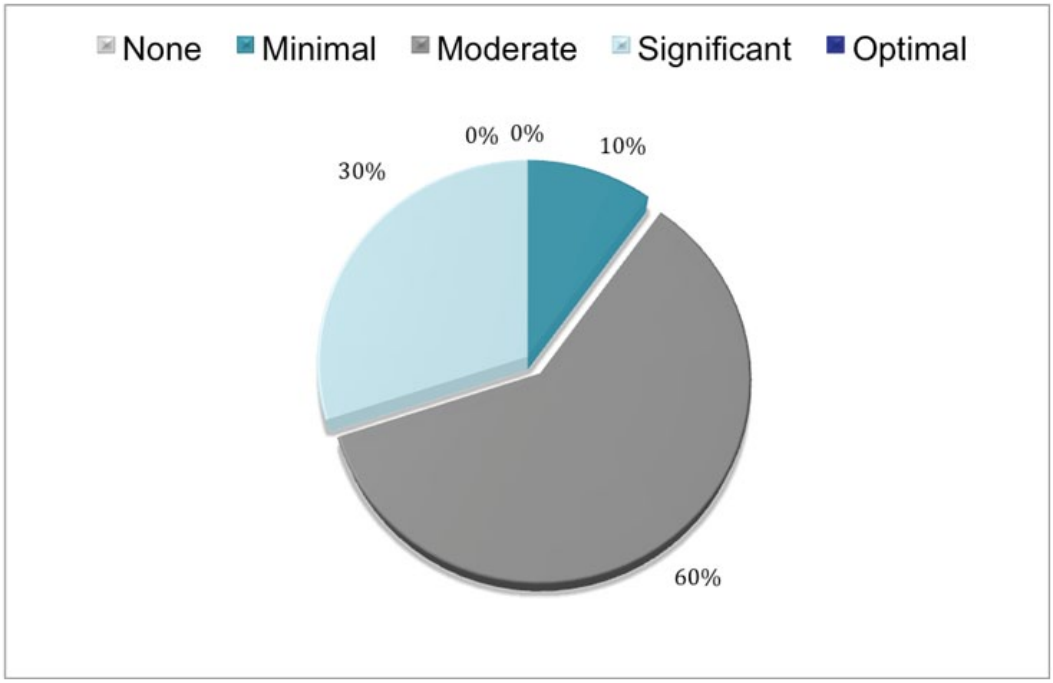
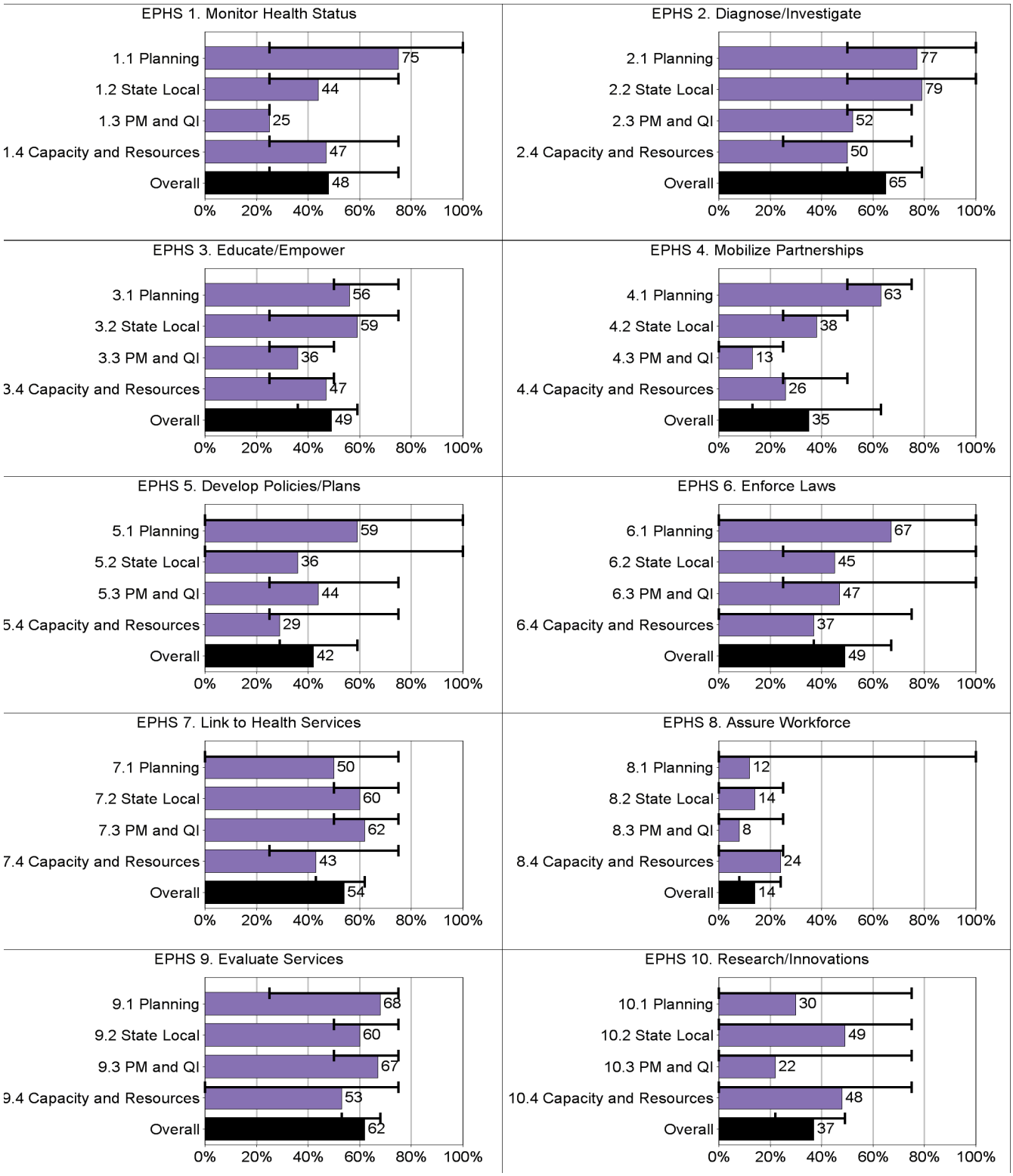


Figure B.3–Percentage of Scores in each Activity Category

The results shown in Figure B.4 show each Essential Service and the model standard ratings.



Missouri State Health Assessment and Health Improvement Plan
Worksheet: Change Forces
May 13, 2013 Meeting

The Forces of Change Assessment is designed to help the healthy department and its partners respond to two major questions – 1) *What is occurring or might occur that affects the health department's approach to improving the health of Missouri's citizens and responding to the most pressing health issues?* and 2) *What specific threats and/or opportunities are generated by these occurrences?* The forces identified through this process, together with the results of the State health Assessment will serve as the foundation for the development of the State Health Improvement Plan. These are the compiled results of four workgroups.

Section 1: Forces Impact

For each question 1 – 3, write a yes or no response under each of the six forces that may impact the health of Missouri residents. For each yes answer, offer a notation. Write our responses for questions 4 – 5 under each force column.

Types of Forces/ Forces Analysis	Social	Economic	Political	Environmental	Legal	Ethical
1) Has anything occurred that may affect the health of Missouri residents?	• Anti-government • Single Issue focus • Values (haves vs. have nots) • Gaps between have and have nots • Aging population • Increase in single parent household families • Aging population	• Cost of health care; increasing costs • Debt of federal government • Increase deductibles • Decrease hours to not provide benefits • Recession • Lower paying jobs • Decrease in benefits • Decreases in union jobs • Increase in health care costs • Cost shifting to consumer • Wider income disparities • Multi-generational poverty	• Affordable Care Act • Medicaid expansion • Partisan politics • Retaliatory politics • Proliferation of referendums • Partisanship • Failure to expand Medicaid and to implement health insurance exchange • Implementation of Affordable Care Act • Politicizing the selection of judges	• Cottage industry food bill • Anti-clean air • Shifting responsibility to higher level/ regulation • Pollution • Climate change • Increase in communities passing livable streets ordinances • Social normal to physical activity and nutrition	• Litigious environment • Tort reform (WC and medical malpractice) • Reluctance to pass laws • Malpractice thrown out • Increase use of initiative petitions • End of life issues (advanced directive vs. durable power of attorney)	• Change of philosophy of government as provider of the most vulnerable (not a safety net) • Unethical decisions (sex, drugs) • Lack of campaign financing requirements

Types of Forces/ Forces Analysis	Social	Economic	Political	Environmental	Legal	Ethical
2) Is there anything that may occur in the future?	• Social media influence. If some into not accurate or false, have to be proactive vs. reactive • Abuse of drugs, sex, etc.	• Some rural hospital closure without Medicaid expansion sales tax • Medical costs are not decreasing	• Missouri legislation conflicts with federal mandate • Affordable Care Act • Affordable Care Act • Willingness to throw people under the bus • Term limits	• Loss of local authority of public health boards • Residential areas with industrial • Fracking	• Affordable Care Act	• People are losing ethics
3) Are the trends occurring in each force area?	• Competing values regarding philosophy (e.g., anti-immunity, raw milk) • Tattoos • Not as safe to play outdoors • Reality TV/You Tube • Social Media	• Traditional funding cutting back on social welfare programs • Economic trends • The giving pledge (high end individual donors, celebrities, politicians, social activists)	• Large lobby doesn't trump partisan politics • Partisanship • Focus on state sovereignty • Political parties • Country more divided • Social and mental health issues not a priority	• Competing values for public good • Government regulations • Fragmented families when children not a priority	• Trends depend on where you live	• People are losing ethics
4) What characteristics of Missouri pose a threat	• Extremes in different areas • Aging population • Physical education being cut while electronic media becoming more popular	• One of lowest state investment in public health • Below national average • Fewer farms • Fewer factories • Industrialized agriculture • Recession • Multi-generational poverty	• Socially conservative • Decrease government, but demand for local services • State agencies not willing on partisanship • Initiatives to decrease taxes in a low tax state	• Competing interests (rural vs. urban) • Lead pollution in some areas • Fracking	• Anti-government attitude • Prescription drugs and zoning issues • Hancock amendment • Abortion debate more polarized • Senior care vs. child care decisions with budget cuts	• Decisions are not ethical • Political extremes dominate parties

Types of Forces/ Forces Analysis	Social	Economic	Political	Environmental	Legal	Ethical
5) What poses a barrier to achieving a shared vision?	• Competing values, limited resources • Prejudice • Peer pressure • The "me" generation • Spending vs. saving • Saving and investment generation vs. spend it now	• Low income and business haven't recovered • Disparities in income and wealth • Coming generation making less money than parents	• Term limits • Personal vs. common good • Entrenchment in ideology	• Cost of running environmentally friendly business • Residential segregation	• Regulations • Might need to re-evaluate government rules and regulations (cost vs. benefit)	• Bootstrap mentality (vulnerable may not have bootstrap) • People disagree on what is good behavior

Definitions: **Social** – the relationship between individuals and groups; **Economic** – Resources, employment, wealth and funding; **Political** – policies, laws, legislative actions, and the individuals/groups that control the legislative system; **Environmental** – The built, natural and social systems that individuals and groups inhabit; **Legal** – judicial and justice system, norms, and vales; and **Ethical** – The rules and standards for right conduct and integrity.

Worksheet: Change Forces, continued
May 13, 2013 Meeting

Section 2. Threats and Opportunities

For each force, list the possible threats related to the public health system and the State that are created by each force. Then list the possible opportunities related to the public health system and the State that are created by each force. These are the compiled results of four workgroups.

Force	Threats to the Public Health System or State Created by Each	Opportunities for the Public Health System or State Created by Each
Social	• Show Me • Anti-government • Lack of understanding about importance of public health • Vocal minority with competing values of public health (or ill informed) • People are not understanding how important their health is • Higher chronic disease rates • Aging population • Saturation of one-sided media • Social and mental health issues not a social priority • Fragmented families, children don't live near parents • Reality TV glamorizes unhealthy behaviors (skews perception of reality) • Aging population creates a need for resources (health, retirement and payouts)	• Proactive use of social media with public health messages (and data) • Increased opportunities for education • Education • Social norm changing related to physical activity and nutrition • Changing norms about smoking • Discussion/awareness on social determinants of health • Social media (You Tube) • The giving pledge • Demystify funding portfolio

Force	Threats to the Public Health System or State Created by Each	Opportunities for the Public Health System or State Created by Each
Economic	• Low public health funding; competition for funding instead of collaboration • Increase in poverty (decrease in insurance) • System being overwhelmed by those needing assistance/services • Fewer factories • Increased industrialized agriculture • Disparity in income and wealth • Multi-generational poverty • Recession • Physical education programs being cut while electronic media becoming more popular • Youth haven't developed the same saving patterns	• Work with state and federal foundations • Tap into high net worth individuals • More education, self-care management • Increased push for living wage • Emphasis on entrepreneurship • Food system changes focusing on locally grown foods
Political	• Term limits • Lack of political will • Partisan politics • Anti "Obama Care" • Government not appreciating the importance of public health • Initiative to decrease taxes in low tax revenue state • Lack of campaign finance requirements • Abortion debate more polarized • Senior care vs. child care because of budget cuts	• Advocacy around term limits • More education on services that are provided by public health • Implementation of ACA health insurance exchanges

Force	Threats to the Public Health System or State Created by Each	Opportunities for the Public Health System or State Created by Each
Environmental	• Public health workforce undertrained, under supported, under-valued, decrease in retention, hard to recruit, impacts service • If business don't comply with environmental health, fees could go toward local infrastructure • Extreme weather • Fracking • Attempts to repeal public health safety ordinance • Not as safe to be outdoors (also social) • Regional difference in mindset and demographics present challenges for statewide opportunities	• Training around advocacy methods to be effective (strengthen advocates) • Learn from disasters and outbreaks • If business don't comply with environmental health, fees could go toward local infrastructure • Implement more complete streets and green space
Legal	• Anti-fed laws/referendums • Don't pass health promoting legislation • Hancock law • Government regulation can increase cost of business with minimal benefit to patients	• Advocacy, briefs on public health issues • Promoting public health with political figures (helmet law) • Legal system is well established, slow to change, and based on precedence
Ethical	• Competing interest of rural and urban • Bootstrap mentality • Value judgments • Emotional vs. data driven decision making • Risky behaviors (helmets, risky sexual behavior) • Political extremes dominate parties • End of life issues could present inefficiencies in health care	• Education, promotion • Youth interested in altruistic endeavors • Education and encouraging people to have better ethics • Provides the opportunity to discuss the hard questions about what we are willing to do to increase the common good • Educate public about advance directives and durable power of attorney. This can improve patient-centeredness and health care inefficiencies.

Visioning and Values

The second phase of the MAPP process involves the development of a vision and set of values for the health improvement plan. The shared vision and values offer purpose, direction and focus for the process. Moreover, the values help to mobilize the stakeholders to achieve the shared vision.

On June 19, 2013, 22 members of the Missouri Public Health System Partner Group engaged in activities that led to the creation of a shared vision and eight core values. The group emphasized the need for the vision and values to have a broad appeal to the existing stakeholders, nontraditional partners (e.g., economic development entities, businesses) that will join the group in the future, residents, and visitors to the state.

Supporting Values Statements*:

1. We are committed to assuring that the Missouri public health system is inclusive of, and sensitive to, all populations and communities in meeting their diverse health needs.
2. We support and encourage equitable access to and the quality of the public health system.
3. We promote influential leadership in the public health system to advocate for a healthy Missouri.
4. We are committed to collaborating for shared goals, risks, rewards, resources, and leadership.
5. We value integration and collaboration with partners to generate ongoing discovery to translate and implement new information and technology for public health practice.
6. We are committed to informing citizens and policymakers about health issues to encourage healthy behaviors and impact policy decisions.
7. We support and advance programs and policies that are data driven and based on the best available evidence or contribute to the research base of best practices.
8. We engage in responsible stewardship of public and private resources, transparency, and timely action to achieve accountability.

**The original statements were edited for clarity and grammar.*

Vision Statement

Missouri is a state of health: Top 10 in 10

The byline demonstrates the partners' desire and commitment to the state being rated in the top 10 for health outcomes within 10 years.

Sources/Methods for Indicators in SHA Report			
Indicator	**Year**	**Source**	**Additional Notes**
Individuals below 100% Federal Poverty Level (FPL) All ages	2011	**County data:** U.S. Census Bureau. Small Area Income and Poverty Estimates (SAIPE). Available at: http://www.census.gov/did/www/saipe/data/interactive/# **U.S. data:** U.S. Census Bureau. American Community Survey (ACS) 1 year estimates **State data by race:** U.S. Census Bureau. ACS 1 year estimates	Regional and State percentages calculated by Megan Terle using SAIPE counts and 2011 ACS population estimates.
Median Household Income	2011	**U.S., State, County data:** Missouri Economic Research and Information Center (MERIC), 2011, http://www.missourieconomy.org/indicators/wages/mhi_11.stm	Not Available for BRFSS regions.
High School Graduates Ages ≥ 25	2007-2011	**U.S., State, & County data:** U.S. Census Bureau. American Community Survey 5-Year Estimates, 2007-2011. Available at: http://www.census.gov/acs/www/data_documentation/2011_release/ The above link provides detailed documentation about ACS but data were accessed from American FactFinder. http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml#	Megan Terle calculated regional rates using the ACS 5-year data provided by DHSS. Megan Terle calculated confidence intervals.
	2009-2011	**State data by race:** U.S. Census Bureau. ACS 3-Year Estimates, 2009-2011.	2011 ACS 5-year estimates were not available by race; so 3-year estimates were used for disparities data.

Indicator	Year	Source	Additional Notes
Unemployment	Jan. 2012	**U.S., State, & County data:** Missouri Economic Research and Information Center (MERIC), Local Area Unemployment Statistics, January 2012, **Not Seasonally Adjusted**, http://www.missourieconomy.org/indicators/laus/index.stm	Megan Terle calculated regional rates and confidence intervals using the data in the excel file sent from DHSS.
	2012	**State data by race:** Bureau of Labor Statistics, Local Area Unemployment, Preliminary 2012 Data on Employment Status by State and Demographic Group **Retrieved from:** http://www.bls.gov/lau/table14full12.pdf	MERIC data were not available by race, so 2012 annual averages were used from Bureau of Labor Standards.
Obesity Age 18+	2011	Missouri County-Level Study Missouri Department of Health and Senior Services. 2011 Missouri County-Level Study. Jefferson City, MO: Office of Epidemiology. **U.S. data:** CDC BRFSS. Retrieved from: http://apps.nccd.cdc.gov/brfss/	DHSS provided regional rates and confidence intervals.
Smoking Age 18+	2011	Missouri County-Level Study Missouri Department of Health and Senior Services. 2011 Missouri County-Level Study. Jefferson City, MO: Office of Epidemiology. **U.S. data:** CDC BRFSS. Retrieved from: http://apps.nccd.cdc.gov/brfss/	DHSS provided regional rates and confidence intervals.
Heavy Drinking Age 18+	2011	**State and Regional Data:** Pashi A, Wilson JS, and Yun S. 2011 Missouri Behavioral Risk Factor Surveillance System Data Report. Jefferson City, MO: Missouri Department of Health and Senior Services. Office of Epidemiology. March 2013. **U.S. Data:** CDC BRFSS, 2011 Retrieved from: http://apps.nccd.cdc.gov/brfss/	Heavy drinking as defined by males having more than two drinks and females having more than one drink per day for the past 30 days. Regional rates and confidence intervals are provided in BRFSS data report.

Indicator	Year	Source	Additional Notes
Uninsured Age 18+	2011	Missouri Department of Health and Senior Services. 2011 Missouri County-Level Study. Jefferson City, MO: Office of Epidemiology. **U.S. data:** CDC BRFSS. Retrieved from: http://apps.nccd.cdc.gov/brfss/	DHSS provided regional rates and confidence intervals.
ER visits per 1,000 All ages Age-adjusted*	2010	**State, Regional, County, & Race data:** Patient Abstract System Missouri Department of Health and Senior Services. Emergency Room MICA, available at: http://www.health.mo.gov/data/mica/MICA/ **U.S. data:** Kaiser Family Foundation. State Health Facts Hospital Emergency Room Visits per 1,000 Population Retrieved from: http://kff.org/other/state-indicator/emergency-room-visits/	Regional rates and confidence intervals were collected from Missouri Department of Health and Senior Services. Missouri Information for Community Assessment (MICA). State rates by race were also collected from MICA.
Avoidable Hospitalizations Age < 65 Age-adjusted*	2010	**State, Regional, County, & Race data:** Patient Abstract System **Source:** Missouri Department of Health and Senior Services. Preventable Hospitalization MICA, available at: http://www.health.mo.gov/data/mica/MICA/	Regional rates and confidence intervals were collected from MICA. State rates by race were also collected from MICA U.S. data not available. Preventable Hospitalization MICA rates were converted from a constant of 10,000 to a constant of 1,000.
Life Expectancy at Birth	2000-2008	Death certificates, Birth certificates, Population **Source (state and counties):** Missouri Department of Health and Senior Services. Life Expectancy. Jefferson City, MO: Bureau of Health Care Analysis and Data Dissemination.	DHSS provided the regional rates.

Indicator	Year	Source	Additional Notes
	2008	**U.S. data:** CDC: National Vital Statistics Reports http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_03.pdf	
Overall Mortality, Cancer, Heart Disease, and suicide All ages Age-adjusted*	2011	**State, Regional, County, & Race data:** Death certificates Missouri Department of Health and Senior Services. Death MICA, available at: http://www.health.mo.gov/data/mica/DeathMICA/ **U.S. data:** CDC National Vital Statistics Reports: Deaths: Preliminary Data for 2011. Available at http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_06.pdf	Regional rates and confidence intervals were collected from Death MICA.
STD/HIV	2011	**State, County, & Race data:** STD-Sexually Transmitted Disease Management System (STD*MIS); HIV-Enhanced HIV/AIDS Reporting System (eHARS) Missouri Department of Health and Senior Services. Sexually Transmitted Disease Management System and Enhanced HIV/AIDS Reporting System. Jefferson City, MO: Bureau of HIV, STD and Hepatitis. **U.S. data:** Centers for Disease Control and Prevention HIV (2010) http://www.cdc.gov/hiv/pdf/statistics_2011_HIV_Surveillance_Report_vol_23.pdf Chlamydia http://www.cdc.gov/std/stats11/chlamydia.htm Gonorrhea http://www.cdc.gov/std/stats11/gonorrhea.htm	Regional rates and confidence intervals were calculated using 2010 population estimates provided by Karin Bosh at DHSS.
Depression Age 18+	2011	Missouri County-level Study Missouri Department of Health and Senior Services. 2011 Missouri County-Level Study. Jefferson City, MO: Office of Epidemiology. **U.S. data:** CDC BRFSS. Retrieved from: http://apps.nccd.cdc.gov/brfss/	Regional rates and confidence intervals were provided by DHSS.

Indicator	Year	Source	Additional Notes
Victim of Bullying in past year	2012	Missouri Behavioral Health Epidemiology Workgroup. Missouri Student Survey, available at http://dmh.mo.gov/ada/rpts/survey.htm	Grades 6-12 Version 1
Drug arrests per 100,000	2011	**State & County data:** Missouri Department of Mental Health State Agency data /data for DMH status report available at: http://dmh.mo.gov/seow/AGENCY/Default.aspx **U.S. data:** Drug abuse arrests available at: http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2011/crime-in-the-u.s.-2011/tables/table-29	Arrests for possession or sale/manufacture of illicit drugs, per 2011 ACS 1 year census population estimates
Infant Mortality	2001-2011	**State and County and Race data:** Death certificates, Birth certificates Missouri Department of Health and Senior Services. Death Missouri Information for Community Assessment (MICA). Available at: http://www.health.mo.gov/data/mica/DeathMICA/ U.S. data: CDC National Vital Statistics System http://www.cdc.gov/nchs/data_access/Vitalstatsonline.htm	Deaths under age 1 per 1,000 live births To get the U.S. IMR for 2001-2011, the number of infant deaths and live births for each year were aggregated from the source at left
Binge Drinking	2010	Missouri Behavioral Health Epidemiology Workgroup. Missouri Student Survey, available at http://dmh.mo.gov/ada/rpts/survey.htm	Binge drinking on 1+ days in past month
Student Depression	2010	Missouri Behavioral Health Epidemiology Workgroup. Missouri Student Survey, available at http://dmh.mo.gov/ada/rpts/survey.htm	Depression scale: student reports feeling very sad often or always
*Age-adjusted rates are to 2000 standard population			

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Missouri Health Assessment





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